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ORIGINAL COMMUNICATIONS.

ART. I. *The Poetry of Architecture; or the Architecture of the Nations of Europe considered in its Association with natural Scenery and national Character.* By KATA PHUSIN.

No. 1. INTRODUCTION.

THE Science of Architecture, followed out to its full extent, is one of the noblest of those which have reference only to the creations of human minds. It is not merely a science of the rule and compass, it does not consist only in the observation of just rule, or of fair proportion: it is, or ought to be, a science of feeling more than of rule, a ministry to the mind, more than to the eye. If we consider how much less the beauty and majesty of a building depend upon its pleasing certain prejudices of the eye, than upon its rousing certain trains of meditation in the mind, it will show in a moment how many intricate questions of feeling are involved in the raising of an edifice; it will convince us of the truth of a proposition, which might at first have appeared startling, that no man can be an architect, who is not a metaphysician.

To the illustration of the department of this noble science which may be designated the Poetry of Architecture, this and some future articles will be dedicated. It is this peculiarity of the art which constitutes its nationality; and it will be found as interesting as it is useful, to trace in the distinctive characters of the architecture of nations, not only its adaptation to the situation and climate in which it has arisen, but its strong similarity to, and connection with, the prevailing turn of mind by which the nation who first employed it is distinguished.

I consider the task I have imposed upon myself the more necessary, because this department of the science, perhaps regarded by some who have no ideas beyond stone and mortar as chimerical, and by others who think nothing necessary but truth and proportion as useless, is at a miserably low ebb in England. And what is the consequence? We have Corinthian columns placed beside pilasters of no order at all, surmounted by monstrosified pepper-boxes, Gothic in form and Grecian in

detail, in a building nominally and peculiarly national; we have Swiss cottages, falsely and calumniously so entitled, dropped in the brick-fields around the metropolis; and we have staring, square-windowed, flat-roofed gentlemen's seats, of the lath and plaster, mock-magnificent, Regent's Park description, rising on the woody promontories of Derwent Water.

How deeply is it to be regretted, how much is it to be wondered at, that, in a country whose school of painting, though degraded by its system of meretricious colouring, and disgraced by hosts of would-be imitators of inimitable individuals, is yet raised by the distinguished talent of those individuals to a place of well deserved honour; and the studios of whose sculptors are filled with designs of the most pure simplicity, and most perfect animation; the school of architecture should be so miserably debased!

There are, however, many reasons for a fact so lamentable. In the first place, the patrons of architecture (I am speaking of all classes of buildings, from the lowest to the highest,) are a more numerous and less capable class than those of painting. The general public, and I say it with sorrow, because I know it from observation, have little to do with the encouragement of the school of painting, beyond the power which they unquestionably possess, and unmercifully use, of compelling our artists to substitute glare for beauty. Observe the direction of public taste at any of our exhibitions. We see visitors, at that of the Society of Painters in Water Colours, passing Taylor with anathemas and Lewis with indifference, to remain in reverence and admiration before certain amiable white lambs and water-lilies, whose artists shall be nameless. We see them, in the Royal Academy, passing by Wilkie, Turner, and Callcott, with shrugs of doubt or of scorn, to fix in gazing and enthusiastic crowds upon kettles-full of witches, and His Majesty's ships so and so lying to in a gale, &c. &c. But these pictures attain no celebrity because the public admire them, for it is not to the public that the judgment is intrusted. It is by the chosen few, by our nobility and men of taste and talent, that the decision is made, the fame bestowed, and the artist encouraged. Not so in architecture. There, the power is generally diffused. Every citizen may box himself up in as barbarous a tenement as suits his taste or inclination; the architect is his vassal, and must permit him not only to criticise, but to perpetrate. The palace or the nobleman's seat may be raised in good taste, and become the admiration of a nation; but the influence of their owner is terminated by the boundary of his estate: he has no command over the adjacent scenery, and the possessor of every thirty acres around him has him at his mercy. The streets of our cities are examples of the effects of

this clashing of different tastes; and they are either remarkable for the utter absence of all attempt at embellishment, or disgraced by every variety of abomination.

Again, in a climate like ours, those few who have knowledge and feeling to distinguish what is beautiful, are frequently prevented by various circumstances from erecting it. John Bull's comfort perpetually interferes with his good taste, and I should be the first to lament his losing so much of his nationality, as to permit the latter to prevail. He cannot put his windows into a recess, without darkening his rooms; he cannot raise a narrow gable above his walls, without knocking his head against the rafters; and, worst of all, he cannot do either, without being stigmatised by the awful, inevitable epithet, of "a very odd man." But, though much of the degradation of our present school of architecture is owing to the want or the unfitness of patrons, surely it is yet more attributable to a lamentable deficiency of taste and talent among our architects themselves. It is true, that in a country affording so little encouragement, and presenting so many causes for its absence, it cannot be expected that we should have any Michael Angelo Buonarottis. The energy of our architects is expended in raising "neat" poor-houses, and "pretty" charity schools; and, if they ever enter upon a work of a higher rank, economy is the order of the day: plaster and stucco are substituted for granite and marble; rods of splashed iron for columns of verd-antique; and, in the wild struggle after novelty, the fantastic is mistaken for the graceful, the complicated for the imposing, superfluity of ornament for beauty, and its total absence for simplicity.

But all these disadvantages might in some degree be counteracted, all these abuses in a great degree prevented, were it not for the slight attention paid by our architects to that branch of the art which I have above designated as the Poetry of Architecture. All unity of feeling (which is the first principle of good taste) is neglected; we see nothing but incongruous combination: we have pinnacles without height, windows without light, columns with nothing to sustain, and buttresses with nothing to support. We have parish paupers smoking their pipes and drinking their beer under Gothic arches and sculptured niches; and quiet old English gentlemen reclining on crocodile stools, and peeping out of the windows of Swiss chalets.

I shall attempt, therefore, to endeavour to illustrate the principle from the neglect of which these abuses have arisen; that of unity of feeling, the basis of all grace, the essence of all beauty. We shall consider the architecture of nations as it is influenced by their feelings and manners, as it is connected with

the scenery in which it is found, and with the skies under which it was erected; we shall be led as much to the street and the cottage as to the temple and the tower; and shall be more interested in buildings raised by feeling, than in those corrected by rule. We shall commence with the lower class of edifices, proceeding from the road side to the village, and from the village to the city; and, if we succeed in directing the attention of a single individual more directly to this most interesting department of the science of architecture, we shall not have written in vain.

ART. II. *Experimental Essays on the Principles of Construction in Arches, Piers, Buttresses, &c.* By WILLIAM BLAND, Jun. Essay X. and last. *Relative to the Architecture of Chapter-Houses.*

SALISBURY Chapter-House. — *Fig.* 109. represents a part of this building, which is, in form, an octagon, and its dimensions are as follows: —

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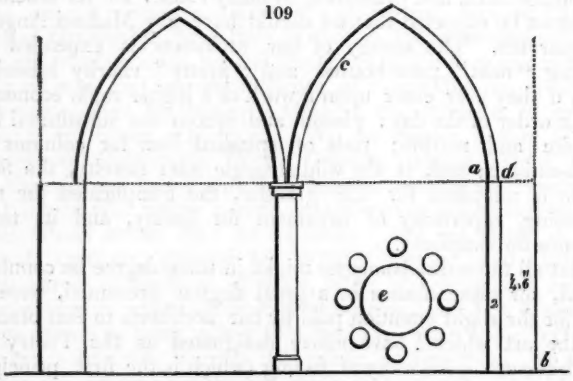

The span from the pillar to the buttress wall is 27 ft. 6 in. The height of the pillar is 27 ft. 6 in. The height of the shaft is 24 ft. The diameter of the compound pillar is 2 ft. 6 in.; a horizontal section of which is shown at *e*, the large centre pillar having eight small pillars surrounding it, detached, however, at 1 in. distance. The diameter of the small pillars is 4 in., and that of the large centre one is 21 in. The thickness of the wall is 2 ft. The thickness of the buttress is 4 ft. 6 in. The dimensions of the masonry over the groins and crown of the arches I do not possess.

Now, in 27 ft. 6 in. there are 330 in., which, divided by 6, gives 55 in. for the true balancing diameter of the pillar; but

the diameter is 30 in., therefore, nearly one half part too small, when the height and span correspond. This law applies, however, to a single series of arches and pillars; but, when one pillar is placed in the centre of many arches, as in the case before us, it being eight, then, according to experiment fig. 158. Vol. III. p. 418., the pillar is enabled to carry double the weight of a single series: consequently, the dimension of 30 in. rather exceeds the correct diameter.

The thickness of the wall, taken 4 ft. from the floor, is, as before stated, 2 ft.; and the buttresses, which are of the same thickness throughout, with only a small diminution from bottom to top, are each 4 ft. 6 in., making a total of 6 ft. 6 in.; but they diminish in breadth, after the height of about 10 ft., from 3 ft. 9 in. to 2 ft. 9 in., which, on the average, is 3 ft. 3 in.

The proportion which the dimensions of one whole buttress bears in its thickness to the balancing diameter is as follows:—In 6 ft. 6 in. there are 78 in., and the diameter contains 55 in.; therefore, the buttress equals one diameter and a half. The average breadth of the buttress is 3 ft. 3 in., or just half the thickness.

On submitting this building to the test of experiment by means of the buttress (*a b*), which is 6 ft. 6 in. in thickness, 3 ft. 3 in. in breadth, and from the floor to the springing in height, with a model on a scale of half an inch to a foot, the following were the results: — First, Without the side walls and window arches, and one foot of the arch *c d* placed upon the buttress, the other foot resting on a strong pier at the distance of the centre pillar, the arch thus situated balanced with $\frac{3}{8}$ lb. on the top. The model buttress, as high as the springing, weighed $1\frac{1}{4}$ lb.; therefore, it would support half its own weight, when placed on the crown of the arch. Secondly, Upon adding the two adjoining window arches, springing from the same buttress, but on opposite sides, having the octagonal inclination, and completed with masonry above from estimation only, the buttress, likewise the former arch, then balanced under the weight of $2\frac{1}{4}$ lb., which, at 17 tons to $\frac{1}{2}$ lb., equals 76 tons.

Notwithstanding all this, the structure is deficient in strength, since, on the immediate entrance into the interior, the eye is arrested, and the mind distressed, by the ironwork which radiates from the centre pillar to every buttress for its support. Yet this is the work of Sir C. Wren; and, on closely inspecting this otherwise beautiful piece of art, the cracks in the walls, and the inclination of the centre pillar, fully justified something being done for its security.

The dimensions of the buttresses appear to be not so much in fault as those of the walls, but more particularly of the centre pillar, which, being a compound one, is not equal in strength to

a pillar composed of solid layers of stone. This is exactly instanced in Westminster Abbey, as may be seen on examining the pillars at the western end of the nave, and those nearest the screen. The former consist of solid layers of stone, and continue as upright as when first constructed: the latter, being compound pillars, are yielding to the pressure of the arches over the ailes; and therefore, being similarly circumstanced to those of this chapter-house, they are obliged to be assisted in like manner by iron bars.

Worcester Chapter-House — Fig. 110. represents a part of this building, which is a decagon, it having ten sides. The particulars of the dimensions are as follows: —

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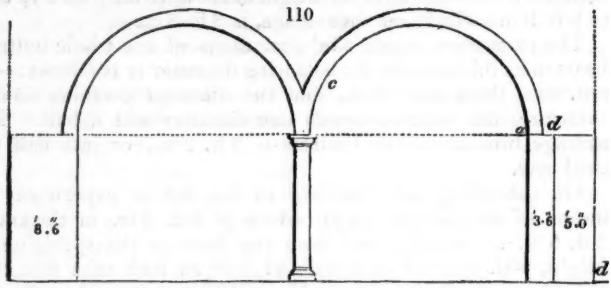

The span from the centre pillar to the buttress wall is 28 ft. The height of the pillar is 19 ft. 7 in. The height of the shaft is 17 ft. The diameter of the pillar, which is circular, is 2 ft. 4½ in. The thickness of the wall is 3 ft. 6 in. The thickness of the buttress is 5 ft. The thickness of the masonry over the groins and crown of the arches I do not know.

In 28 ft. there are 336 in., which, divided by 6, gives 56 in. for the balancing diameter of the pillar. The diameter is, however, 28½ in., therefore one half part too small when the height equals the span; but, as in Salisbury Chapter-House, half the balancing diameter is sufficient. This pillar supports semicircular arches, consequently, the true height should be a quarter part less than the span, as shown by the experiment relative to fig. 150. Vol. III. p. 410. Therefore, the height should be 21 ft.; but it is only 19 ft. 7 in., which is 17 in. within the balancing proportion; thus proving the diameter of the pillar to be nearly 3 in. beyond the necessary half balancing proportion.

The total thickness through the wall and à buttress together is 8 ft. 6 in., or 102 in., which only wants 10 in. of being double of the balancing diameter. Since, however, the height of the springing is 17 in. too short, this circumstance will allow of 3 in. reduction in the diameter, thus leaving but 4 in. within the

double balancing diameter. The breadth of each buttress is 2 ft. 6 in., or 30 in., which rather exceeds one quarter part of the thickness: their thickness from the ground to the top diminishes at regular distances.

Experiment, with a model of half an inch to a foot, proved that the wall and one buttress, under the same conditions as those first mentioned relative to Salisbury Chapter-House, balanced under the weight of $\frac{3}{4}$ lb. on the crown of the arch; and, under the second conditions, with the two adjoining window arches added, $2\frac{3}{4}$ lb. were required to bring the buttress to the balancing point: in the latter experiment, the window arches and buttress were completed with masonry above, according to estimation. These tests give a decided superiority of strength in favour of Worcester over Salisbury Chapter-House. This fact is confirmed by Mr. Dolvere, the verger, to whom I am particularly obliged for his kindness in sending me the dimensions, and who informed me that the building is perfectly sound.

Let me here again observe that this centre pillar is single, and composed of successive layers of stone to form one circular shaft, from the capital of which the ten several arches spring.

York Minster Chapter-House.—*Fig.* 111. represents a part of this building, which is in form an octagon, it having eight sides.

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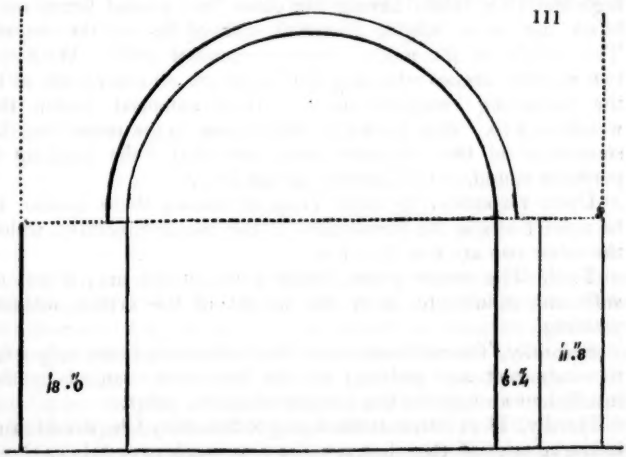


This beautiful structure is so far different from the two former chapter-houses, that, instead of having the roof supported by a single centre pillar, it has none at all. For the dimensions and other particulars, I am greatly indebted to Mr. Taylor, mason at the Minster, as well as for his kind offer of farther information. The dimensions are as follows:—

The span from buttress wall to buttress wall is 62 ft. 6 in. The height to the springing is 38 ft. 3 in. The thickness of the wall is 6 ft. 4 in. The thickness of the buttress is 11 ft. 8 in.; these two latter making a total of 18 ft. The height of the masonry over the groins and crown of the arches I have not been able to ascertain.

Now, 62 ft. 6 in., divided by 6, gives 10 ft. 5 in. for the balancing diameter; but the wall and buttress are together 18 ft., therefore 7 ft. 7 in. greater. The wall and buttresses support semicircular arches, which will require, as in the case of Worcester Chapter-House, a quarter part less than the span for the balancing height. The height of the springing of the arches should then be 47 ft., but the springing is 38 ft. 3 in., and, in consequence, will admit of the diameter of the pillar: but here the wall and buttress are reduced in thickness 1 ft. 5 in., allowing 2 in. in every foot of height, or one-sixth, which gives for the true diameter 9 ft., and which sum doubled equals 18 ft.; thus corresponding exactly with the thickness of the wall and buttress together. The width of each buttress is 6 ft. 4½ in., or a little above one third of the total thickness.

Under experiment, on the same scale of model as before employed, an arch placed with one foot on a buttress up springing high and 18 ft. thick, having the other foot placed firmly on a block the same height, balanced with 3½ lb. on the crown. The weight of the model buttress equalled 10 lb. With the two window arches adjoining the buttresses all completed, as in the preceding chapter-houses, it then balanced under the weight of 8 lb. Mr. Taylor, in his answer to me respecting the soundness of this chapter-house, says that "the building is perfectly sound, not giving way in the least."

Upon reconsidering these chapter houses, there appear to be three faults in the proportions of the one at Salisbury, which the other two are free from:—

First, The centre pillar, being a compound one, is not of sufficient solidity to carry the weight of the arches without yielding.

Secondly, The walls are not of that substance, being only 2 ft., to counteract any yielding of the buttresses, caused by the insufficient strength of the compound centre pillar.

Thirdly, The buttresses belonging to Salisbury Chapter-House, in the squares of their bases, possess as much materials as those of Worcester Chapter House; but, being put together in too square a form, have not the power of counteracting the outward thrust of the incumbent arches equal to those above named, as proved by several experiments in the foregoing essays.

In order to repair this chapter-house and remove the iron-work, I would humbly suggest the following:—Let the centre

pillar be cased with stone laid in Roman cement, the whole being made solid, and enclosing in its depth at least half the thickness of the small pillars, if it be considered more ornamental to retain them, having irons about every 3 ft. in height secured in the centre pillar, to keep the outside work firm in its place. Again, the groins immediately over the pillar, and over the several buttresses, should be made solid, if not already so, by brick or stone-work set in cement, and carried up high enough to prevent any further yielding of the groins or voussoirs, so as in both cases to produce the same strengthening effect, as shown in experiment fig. 67. Vol. III. p. 206.

After allowing time for the whole to be settled, the ironwork, I am strongly disposed to believe, might then be safely removed; taking every precaution, however, to avoid jarring.

Having arrived at the termination of my enquiries, and given a sufficient number of examples to illustrate my theory, I cannot close the subject without expressing my humble opinion respecting the origin of Gothic architecture; namely, that so much beauty, taste, skill, and sublimity, so far from being the work of a barbarous people, was the fruit of the accumulated industry, reflection, experience, taste, and skill of highly civilised and talented men, who were influenced in the choice of forms and ornaments not only by the climate of England, but by the religious and noble feelings of human nature.

Hartlip, Nov. 1835.

Art. III. *Candidus's Note-Book.*

Fasciculus IX.

"Sicut meus est mos,
Nescio quid meditans nugarum; et totus in illis."

I. The portico of St. Martin's Church has lately undergone the process of *churchwardenising*, with the usual success attending thereon. I know not whether any of the newspapers (which, a year or two ago, raised such an outcry when it was imagined that the view of it in one direction would be completely intercepted by the portico of the National Gallery, have protested against, or even noticed, what has been done; but, if not, their sympathy for it must now have been succeeded by complete indifference, otherwise they would most certainly have reproved, in unsparing terms, the barbarism of inserting iron railing, of the most clumsy design, between the columns, and in such manner, too, that the shafts of the latter are partially hooped. Thus, a very considerable expense must have been incurred for little other purpose than that of wantonly disfiguring the part of

the edifice which chiefly, I might say, alone, deserved admiration. As a means of precaution, surely such an enclosure of the portico cannot be at all more necessary now than it has hitherto been; especially as the situation is rendered so much more public than it formerly was. Even were it imperatively called for by the increasing Vandalism of the "rising generation," a low railing, between pedestals, at the bottom of the steps, would have been a sufficient protection, and even a better one than that which has been adopted; inasmuch as it would have prevented persons from approaching the columns at all, which at present they can do; and consequently scribble upon, cut, or otherwise disfigure them, if so disposed. Considered as a mere innovation, I do not object to what has been done; but solely on the ground of its being an exceedingly tasteless one. To say the truth, much might be done in the way of innovation here, which would also be improvement: for instance, were a lofty centre doorway substituted for the ugly, low, arched one; were the window above it walled up, in lieu of which light might be admitted into the vestibule through panels of rich open metal-work in the door; and were the rusticwork removed from the other doors and windows, or rather, quite new dressings bestowed upon them; all these would be decided improvements, and the parts within the portico would harmonise tolerably with the order. As to what has been actually done, it strikes me as, whether so intended or not, having no other merit than that of a desire to treat the Church and the Gallery as nearly alike as possible; and they are now both well railed — the one railed *in*, the other railed *at*.

II. Much as has been lately written respecting the comparative merits of Grecian and Gothic architecture, it has not, I believe, been remarked, that it is easier to keep up the character of the latter throughout the whole of a design than that of the other. Not only does the Gothic style abound in striking and diversified features capable of entering into innumerable combinations, but of such as diffuse themselves over every part; whereas, in Grecian architecture, at least in the modern application of it, the essential character of the style is nearly confined either to a portico or some other disposition of columns. With that it may almost be said to begin and terminate; for whatever else is added to it is of a different and very inferior stamp. Hardly is it possible to keep up the same tone, still less to increase it. It certainly cannot be accomplished by means of windows, which, even when most happily introduced, and made to contribute to embellishment, are apt to interfere with and disturb, and certainly do not heighten, the impression produced by columns and their immediate adjuncts. Whereas, in the Gothic style, and every mode of it, whatever may be the rich-

ness or the expression given to any portion of the building, it may be carried to greater extent in the windows than in almost any other part.

III. It is somewhat unaccountable that so very little is to be met with that can fairly be termed architectural criticism; for the enunciation of its general principles and canons is quite a different thing from the application of them to particular instances. If this be owing, as some would fain persuade us, to modern critics being restrained by motives of delicacy from freely commenting on the works of their contemporaries, I must say that it is an exceedingly misplaced delicacy, and, moreover, that it is, in more than ways than one, injurious to the art itself. Neither can I understand why greater reserve should be requisite in exercising this particular species of criticism than any other; since, if it is to be admitted as a valid one, the same argument would apply equally well with regard to other subjects of criticism. It is said that a building speaks for itself; but so also does a work of sculpture or painting: consequently, that is a very lame and impotent excuse, amounting to no more than a confession that the critic is unable to particularise beauties or defects, and to show in what proportion they happen to exist in the particular composition he is noticing. A building speaks for itself: truly, so it does; but to whom? Most assuredly not to the public generally: at least, I have yet to learn that they are so fully enlightened in regard to architecture that criticism upon buildings is superfluous, indispensable as it may be for productions of literature and the other fine arts. It would, indeed, appear, *primâ facie*, that architecture ought to be far better understood by persons in general than any other art, since its productions stand exposed to the gaze of all; not locked up in cabinets, and there secluded from profane eyes, but thrust forth to view in our streets and highways. Undoubtedly, buildings, the exterior of them at least, are seen by all: but to see is one thing; to examine, and afterwards be able to appreciate, is another and quite different matter: and how many of those who see ever examine? let alone the ability to form a correct judgment, or even any judgment at all, afterwards. So far from being able to criticise a building, there is not one person in a hundred, or even in five hundred (of course I exclude professional men), who can, by description, convey even a tolerable idea of an edifice, though he may have been looking at it only a few hours before. If he can enumerate its principal features, without half a dozen mistakes, you may set him down for a clever fellow, and, as matters now go, as being tolerably well informed in architecture. But, should he further have noticed some minor particulars, minor as to size, yet highly important and influential in themselves, you can rank him as nothing less

than a prodigy. It is but a day or two ago I was startled by hearing some one declare that the old College of Surgeons was a much handsomer and more noble looking building than the one Barry has since shaped out of it. What reasons, it will be asked, were alleged in support of such a preference? Reasons, indeed! in such cases reasons are entirely out of the question. Never are they offered, and you are always supposed to have no right to ask for them, not even though the opinion itself be delivered in the most decisive tone. In fact, in regard to architecture, ignorance and dogmatism generally go hand in hand; and the less a person knows of the subject, the more difficult it is to convince him that he is in error, or that he ought, in some degree, to mistrust his own taste. And why is it that this ignorance and dogmatism are so prevalent: and that the phrase, "Well, I don't pretend to be a judge; but I certainly know what pleases myself;" is so generally received as a most unanswerable argument? In a great measure it is owing to the utter silence of criticism, and to the merits of buildings not being canvassed at length, but hastily dismissed with a summary off-hand decision, either in their favour or the contrary, as if so exceedingly barren of interest, so incapable of affording matter of discussion, as not to be entitled to any exactness of enquiry.

IV. "It is quite futile," was lately observed to me, "to attempt to establish any system of criticism in respect to architecture; for, after all, it is entirely a matter of taste." Undoubtedly it is; yet I cannot help thinking that such a doctrine goes very much further than the party who put it forth at all intended, since it strikes at the very root of all criticism, which is chiefly concerned with taste. Admit it, and we may dispense with criticism entirely, and consign all dead critics to oblivion, and all the living ones to — starvation. Their occupation's gone for ever: they are a useless, nay, worse than useless, race; officious interfering puppies, who pretend to dictate to the rest of the world what they ought to admire, and what they should condemn. If I maintain that Hood is superior to Homer, "Jim Crow" far more humorous than "John Gilpin," that is entirely an affair of taste; and so the matter is fairly settled; for what right has any man, particularly if he makes any pretensions to good breeding, to enquire into my private reasons for so thinking, or to offer to dispute on the subject, and convince me that I am egregiously mistaken? No; let criticism be henceforth cashiered. The world has all along been grossly imposed upon, in being led to fancy that it is the province of criticism to take cognisance of matters that belong purely to taste; whereas it ought properly to confine itself to such as admit of demonstration. It would follow, that criticism has no more to do with poetry than it has with

politics; and that building and engineering, steam-engines and railroads, belong to it more properly than architecture does.

How frequently do we hear people say, in reply to some objection of criticism alleged against a piece of architecture, "After all, that is merely a matter of taste;" as if taste were of little or no moment, when it is, in fact, every thing. Establish the contrary principle, acting fairly and consistently up to it, and what ensues? Why, art is at once deposed from its supremacy. At one fell swoop do we annihilate every distinction between beauty and its opposite: a mosaic pavement is no better than a brick floor; the costliest Persian carpet, of the richest design, does not at all excel a piece of drugget of the same size; since the superiority of the one over the other is altogether an affair of opinion and taste. To what is the Parthenon, or any other first-rate work of architecture, indebted for its reputation and the admiration it excites, save to the taste manifested in it? We cannot say, to its size or durability, because equal size and durability might be possessed by a structure of the plainest, not to say ugliest, appearance. Neither can we say, to beauty of material, because that brings us back at once to what is purely a question of taste. Nay, even size itself, when it exceeds what necessity or convenience demands, has no other value than what taste affixes to it; nor would it require much dexterity of sophistry to show that all exaggeration and superfluousness, in regard to size, deserve to be censured rather than admired; being only so much wasteful excess, which has no other object than artistical effect. Again, I say, introduce the *anti-æsthetic* doctrine, and see what havoc you make among reputations. The difference between the accomplished architect, the artist, and the skilful builder, is reduced to nothing; or, if any be at all discernible, it might, perhaps, in many cases, be in favour of the latter.

V. When perfectly pure and unadulterated, the "Hole-in-the-wall" (pronounce *Holenthewall*) style is, like milk and water, very good in its way; that is, negatively good. It is not calculated, indeed, to excite any connoisseur raptures; but it may be endured without a shrug. Far otherwise is the case when that innocent style is sophisticated and adulterated by an intermixture of the *soi-disant* classical along with it. It then becomes nothing less than ridiculous and disgusting. Of this, the Mariners' Almshouses at Hull might be mentioned as affording more convincing than agreeable evidence, were it not rather unfair to point out any one single example, when they occur almost *passim*, and may be met with much nearer home. In my opinion, the perpetrators of such designs merit the name of quacks quite as much as, or more than, any non-professional dabblers in architecture; who, however bad their taste may be, can very rarely indeed inflict it on the public.

VI. In his paper on Competitions, Eder charges Sir E. Cust with indulging in that figure of rhetoric termed a *bull*, when he asserts that our public buildings are below the average talent of the last thirty years. Both of them, I think, have been a little too much in a hurry; Sir Edward in not taking time fully to explain his meaning, the other to comprehend it. Had we no other means of judging of architectural talent than from executed buildings, the colonel would certainly have been caught in a blunder: but surely Eder will grant that there may be a great deal of talent and ability among those who have never had opportunities of displaying it; also, that, in actual buildings, architects are not always at liberty to act up to their own taste and feeling, or to do justice to their own ideas. On the contrary, they are not unfrequently compelled to pare down, and even cripple, their own designs to such a degree, that the character first aimed at is totally lost sight of and obliterated. Neither does it invariably happen, that it is the worthiest design which is selected for execution. Consequently, it is very possible for both our public buildings and others to be behind, if not the average talent, at least the talent which is suffered to lie dormant among the profession. The architectural exhibitions of the Royal Academy plainly enough attest such to be the case; for the most beautiful compositions are generally such designs as we have never seen realised. Among things of this description were some of those by the late Henry Parke, who was, in comparison with John Nash, "Hyperion to a satyr"; and yet we have not a single building to record the talent of the former, while the imbecility of the latter stands blazoned forth indelibly in the New Palace.

ART. IV. *On Parsey's natural Convergence of Perpendiculars.* By CANDIDUS.

WHEN I begin by acknowledging that I have not seen Mr. Parsey's *Perspective Rectified*, and know his theory only as it has been explained to me by others, there, perhaps, I ought to stop, and not presume to impugn what requires to be accurately understood, in order to form an accurate judgment. Yet, as I cannot very well be mistaken in regard to the purport of the doctrine, although unacquainted with the reasonings and demonstrations by which its author attempts to support it, I will make bold to deny that vertical lines converge, and ought to be so represented.

Vertical lines are not otherwise affected by the laws of vision and perspective, than that they decrease in length according to their distance from the eye. Not that there is one law for vertical,

another for horizontal lines; by no means: on the contrary, horizontal lines, when similarly situated with regard to the picture, that is, when they are *parallel to it*, merely decrease according to their distance, without in any degree converging. For proof of this we need only take the familiar instance of a pavement in squares, where all the horizontals perpendicular, that is, at an angle of 90°, to the picture, converge, or vanish to the point of sight; and all those which are parallel to the picture continue parallel to each other. Now, as the plane of the picture is always vertical, at least with regard to its own horizon; although, as in the case with a drawing laid upon a table, it is not perpendicular to the real horizon; it follows, of necessity, that all verticals must be parallel to the picture, and continue so in perspective: for, if not parallel to that place, they cannot be perpendicular to the horizon, but must be more or less inclined to it.

Surely Mr. Parsey must be inordinately ambitious of distinction, to aim at acquiring it by the preposterous idea he has taken up, and to which he could never have been led by his own eyes, unless his vision be altogether different from that of the rest of the world: because, if perpendicular lines converge like horizontal ones, how happens it that they do not, like the latter, appear to do so? and that the summit of a lofty building does not show itself sensibly narrower than the lower part, just as the further end of it becomes apparently narrower, when viewed obliquely? Or how happens it, again, that, supposing we stand directly in front of a long range of building, we do not perceive the horizontal lines converge from the centre, to some point on each side to the horizon, which, according to Mr. Parsey's theory, they should of course do? Therefore, unless he has adopted this last mentioned fancy also as part of his system, he has but half done his work: "*rectifying*" perpendiculars by making them *incline;* but leaving horizontal lines, when parallel to the picture, to be drawn as incorrectly as ever. Really this notable discovery of Parsey's brings us into a most perplexing dilemma; since, even were we ever so much inclined to do so, we cannot very well allow him to be in the right, without pronouncing all artists before now to have been entirely in the wrong; since all the greatest masters and all the veriest daubers, those most renowned for their achievements in perspective, and those most remarkable for their blunders, have all agreed in representing perpendiculars as vertical to the base of the picture, and all planes bounded by such lines as wide at top as at the level of the eye.

I put it, then, to Mr. Parsey's modesty, to decide whether it would not be his most advisable course to set about *rectifying*, at least reconsidering, his own theory; seeing that it is utterly at variance with the vested interests and reputations of the greatest

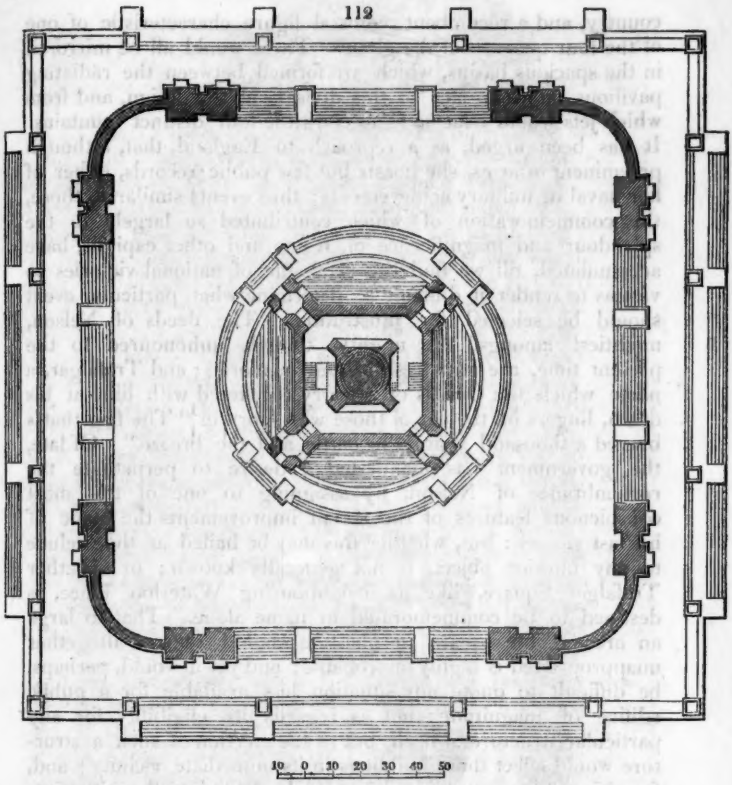
names in art; whose productions, it would now seem, ought to have been satirised by Hogarth in his *False Perspective*, that is, were it not that Hogarth himself was, in regard to perpendiculars, as great a blunderer as any of them.

What is to be done? Are we, out of complaisance to Mr. Parsey and his discovery, completely to revolutionise that part of drawing to which it relates? And, if so, has he a second scheme *in petto* for giving the world new versions of all the pictures, engravings, and drawings, that have hitherto been produced; and which, being one and all so exceedingly fallacious and erroneous in one main particular, ought to be cancelled as monstrous absurdities? That there would be some *leetle* difficulty and inconvenience in carrying this into execution, and in bringing out new and *rectified* editions of all the works of graphic art we already possess, will hardly be disputed by any one, not even by Mr. Parsey himself. Perhaps, however, he will exclaim, "*Ruat cœlum,*" let them one and all be swept away; except a few to be preserved as curious specimens of what must henceforward be an obsolete system, one fraught with error of the grossest and most unaccountable kind: especially when it is considered that, according to the principles of the new system, all lines parallel to the picture, horizontal as well as vertical ones; that is, those which are perpendicular to the sides, as well as such as are perpendicular to the base, of the picture; ought to converge, the one laterally, the others upwards and downwards, from the focus of vision, or point of sight.

I will not say that Mr. Parsey labours under very great delusion in regard to his system itself, because I do not imagine any arguments or proofs will convince him of *that;* it is quite enough that he will, *nolens volens*, be convinced he is now labouring under a most extraordinary delusion indeed, if he really fancies he can bring the rest of the world to adopt it. That is a point at which, I will venture to affirm, he may labour as long as he likes, and find it all labour in vain, a labour more difficult of accomplishment than all those of Hercules put together. In short, it is "hoc opus, *ille labor,*" with a vengeance.

ART. V. *Design for a national Naval Monument; proposed to be erected in Trafalgar Square, Charing Cross.* By THOMAS BELLAMY, Architect.

THE design consists of a series of terraces, variously decorated, but all combining to proclaim its specific character. The lowermost terrace is intended chiefly to equalise the levels of the ground, but it also constitutes a very important feature by presenting an extensive platform to the entire composition. Its



decorations are figures of reposing lions, and candelabra of bronze, charged with emblematical devices, and surmounted by spheres. The principal terrace is bounded by a breastwork and pedestals; the latter surmounted by colossal statues in bronze of renowned admirals, and bearing sculptured rilievos of dolphins, tridents, and prows of ships. The blocks dividing the steps are surmounted by sea horses. The third, and most elevated, terrace circumscribes the base of the central circular pedestal, which sustains a seated statue in bronze of His Majesty (King William IV.), and is approached through the four open pavilions, which radiate from the octangular podium or basement. These pavilions are crowned by trophies in bronze; the steps are flanked by blocks bearing sea horses. Each face of the podium between the pavilions is enriched by an alto rilievo illustrative of some signal event in the naval annals of the

country, and a recumbent colossal figure characteristic of one of the four quarters of the globe. These would all be mirrored in the spacious basins, which are formed between the radiating pavilions on each face of this division of the design, and from which jets would issue so as to constitue four distinct fountains. It has been urged, as a reproach to England, that, although preeminent in arms, she boasts but few public records, either of her naval or military achievements; thus events similar to those, the commemoration of which contributed so largely to the splendour and magnificence of Rome and other capitals, have accumulated, till we find the catalogue of national victories so vast as to render it difficult to determine what particular event should be selected for illustration. The deeds of Nelson, mightiest amongst the mighty, though unhonoured to the present time, are still fresh in our memories; and Trafalgar, a name which the Genius of Victory registered with him at his death, lingers on the ear of those who glory in "The flag that's braved a thousand years, the battle and the breeze." Of late, the government has manifested a desire to perpetuate the remembrance of Nelson, by assigning to one of the most conspicuous features of the recent improvements the name of his last victory; but, whether this may be hailed as the prelude to any ulterior object, is not generally known; or whether Trafalgar Square, like its neighbouring Waterloo Place, is destined to be commemorated in name alone. That so large an area as the square in question should remain altogether unappropriated is highly improbable; and yet it would, perhaps, be difficult to quote any situation less available for a public edifice of magnitude; not as regards its eligibility for any particular structure of itself, but as the erection of such a structure would affect those buildings in its immediate vicinity; and, for this reason, a public edifice, to be suited to that situation, for would require to be of colossal proportions, in order that it might, as a central feature, take its proper place with relation to the surrounding buildings. This would carry with it the complete obstruction of the views of those objects which combine to render this quadrangle by far the finest in the metropolis. The accompanying design, at the same time that it contemplates an appropriation of the square in a manner void of objection on the grounds previously stated, is intended to convey an idea of a national monument to the naval glory of England. Its arrangement would enable the country, by trifling parliamentary grants from year to year, to do justice to the heroic deeds of her naval sons, by rearing imperishable statues to their as imperishable fame. A monument consecrated to such a purpose would, in the language of the inscription given on the French Pantheon, be "the offering of a grateful country to her illustrious men;" and the future hero, whilst meditating on its terraces amongst

the statues of departed greatness, would be stimulated to deeds that should entitle him to so honourable and so enviable a reward.

It was the author's wish to have introduced as an accessory to the picture, a view of the approved *façade* of the National Gallery as designed by Mr. Wilkins; but, upon application to that gentleman, he was unwilling to allow a sketch to be made from the model for that purpose. The design, therefore, which appears in the view, although strictly adapted in all its dimensions to the site selected for that edifice, and to the peculiar provision which it demands, is only substituted, from necessity, for that which is about to be carried into execution. (Copied from the engraving sent to us by Mr. Bellamy.)

London, Charlotte Street, Bedford Square, Sept. 23. 1837.

" There has been of late much discussion as to the manner in which the open space in Trafalgar Square, opposite the National Gallery, should be disposed of; but it seems to have been wholly forgotten that Parliament voted last session a sum for laying out the ground in question according to a design furnished by Mr. Wilkins; although we are not prepared to say that this design has been *altogether* adopted. The plan of Mr. Wilkins proposes to level the square northwards, taking the pathway from the General Post-Office to the Union Club as the level. Of course, as there is a considerable hill or rise towards the National Gallery, the roadway north of the square and part of the building would then stand as a terrace, about 8 or 9 feet high. Mr. Wilkins proposed to descend from that road into the square by a flight of steps, the full width of the portico; so that, from Charing Cross, the building would, to the eye, have connected itself with those steps and the basement wall right and left of it. The square would be surrounded by a balustrade, and the slope of the sides would have been provided for by gradual and easy descents. There is no intention whatever to plant trees in front of the National Gallery; and, in connexion with this part of the question, we may mention that, although it has been suggested in the public prints that the centre of the square would be a suitable site for the erection of a monument to Nelson, and notwithstanding that a fund for the erection of such a monument is, we believe, in existence, the Government have no control whatever over that fund."—(*Observer*, Sept. 24. 1837.)

" I see, by a letter in *The Times*, that it is proposed to enclose the now open part of Trafalgar Square, and make a shrubbery and walks for the amusement of nursery maids and children. Whether this is to be accounted for by a total want of taste in those who have the direction, or whether it be intended as a sort of companion to the very ugly building called the National Gallery, I cannot inform you; but I beg to suggest (and request you to support) a much better finish for this fine opening; namely, to have a fountain and *jet d'eau* in the centre, as at St. Peter's in Rome; and, if a sufficiency of water cannot be had to keep it constantly going during the day, then to open the jet (as in the Palais Royal, Paris) for some hours every day. — *G. C. Sept.* 13. (*Times.*)

ART. VI. *A Design for a small Cottage Villa.* By W. S.

FIG. 114. *is a Plan of the Ground Story,* in which *a* is the hall, approached by a flight of steps through the entrance door in the centre, and lighted by two windows, one on each side of the

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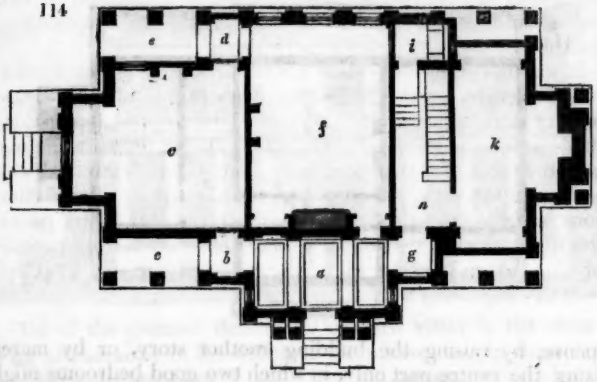

door, the ceiling being paneled as shown. On the left of the hall is a small lobby (*b*) leading to the drawingroom (*c*). This room has a recess on the side, with a folding casement to the floor, leading to the lawn; on the opposite side to the entrance is the fireplace, with two other casements; the one on the right leading into another lobby (*d*), corresponding with the first-named lobby, and communicating with the dining-room; so that any person may pass from one room to the other, without the necessity of going through the hall. Under the colonnade, or covered way (*e e*), a few plants might be placed, which would have a pleasing effect viewed from the drawingroom; and, through the lobby *d*, from the dining-room: *f* is the dining-room, with three windows at one end, and a doorway at the opposite end, leading into the hall. Through the lobby *g*, corresponding with the one at *d*, on the opposite side of the hall, is seen the staircase *h*, under which are the steps to the domestic offices in the basement: there is a water-closet at *i*; *k* is a library, with recesses for books at each end; and on the side is another large recess (with the fireplace), over which is a lantern. This method of lighting a library is considered best; as, from there being no view outwards, the mind is not likely to be disturbed by passing objects; and it leaves all the walls unbroken for the arrangement of bookshelves, maps, &c.

Fig. 115., *First Story.* — In this plan, *a* is a landing, from which the doorway on the right leads into the maid-servants' bedroom (*b*), over part of the library; and on the left is an archway to the passage *c*, with a skylight above: *d* is a bedroom over the dining-room; and *e* is another bedroom, over the drawingroom: *f* is a storeroom and closets, or a small bedroom, over part of the hall. Should more bedrooms at any time be required, they may always be obtained, at a very trifling

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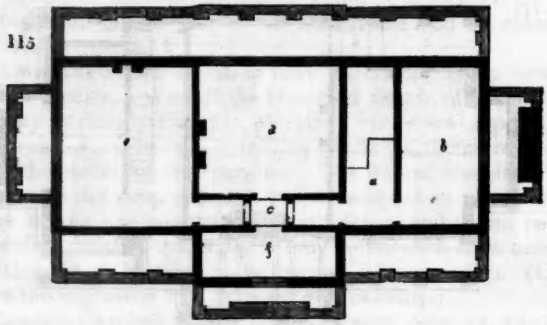

expense, by raising the building another story, or by merely raising the centre part only, in which two good bedrooms might be formed.

Fig. 116., *Basement Story.*—In this figure, *a* is the staircase; *b*, the footman's pantry, with recess for bed (*c*); *d*, knife and boot-

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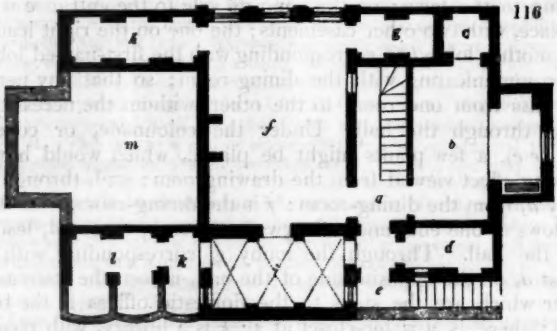

room, close to which is the entrance from the area (*e*); and on the opposite side of the staircase is the kitchen (*f*), with an entrance to the larder (*g*), to the coal and wood cellar (*h*), and to the scullery (*i*), which has a groined ceiling: *k* is a beer cellar; and *l*, wine cellars; *m*, foundations of the drawingroom above; or a good maid-servant's bedroom might be formed there.

Figs. 117, 118, and 119. are elevations of the three fronts. *Fig.* 117. is the entrance, with a colonnade on each side; *fig.* 118. shows the folding casement leading from the drawingroom; and *fig.* 119., the outer wall of the library. The piers I should propose to be of brick, with stone or cement dressings, except those which are grooved, which should be of stone, or covered with cement, to give a richer character and importance to those parts of the elevations.

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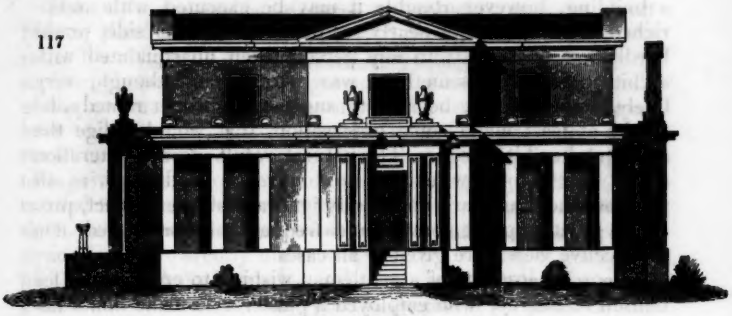

One of the greatest defects in modern villas is the want of unity of character in the different elevations; as, in most cases, the sides are nothing better than bare walls; and the back elevation has merely apertures in it for the windows, placed without any regard to regularity whatever; whilst, at the same time, the front is generally enriched with porticoes, dressings to the windows, doors, &c., presenting a great contrast to the nakedness of the other elevations. With these villas the spectator, when only viewing the front, is pleased; but, on further inspection of the whole building, he is disgusted with the want of taste in the remaining parts.

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Perhaps this want of unity may, in some measure, arise in consequence of architects contenting themselves with only exhibiting, in most cases, a geometrical elevation of the principal fronts to their employers; who, not being in the habit of studying such subjects, are not able to judge of the effect of two elevations when combined together in the erection. A perspective view of

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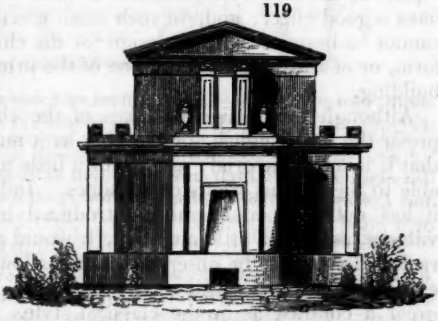

a building, however roughly it may be executed, with an enriched front, and a (or nearly so) dead wall for its side, would hardly fail to suggest to any person (even unacquainted with architecture), that something was wrong; and though, very likely, he would not be able to suggest the proper remedy, he would at least make some observation, that would oblige the artist to alter his design. The natural result of such alteration could not be otherwise than productive of good; and, as all persons who build are not wholly ignorant of the subject, probably great improvements would frequently be suggested, if a perspective view were given in all cases.

I know an instance of a gentleman wishing to erect a villa for himself in Surrey, who employed a plasterer to make him a design: he did so, taking care to have plenty of his description of work introduced; and, consequently, he crowded every order, from the Doric upwards, into the front elevation. With the drawing of the front the gentleman was delighted, expecting the other elevations would be made in some measure to correspond with it; and that, on the whole, it would be one of the finest houses in its neighbourhood: but judge of his surprise, when the building was up, to find that the sides were dead walls, and and the back elevation not much better. Had he been supplied with a perspective drawing, or even an elevation of each front, such a building, it is presumed, would never have been in existence.

In small villas of plain design, it is always difficult to keep all the elevations in character with each other, except those in the Gothic style, where the chimneys are generally made to project boldly from the main walls, and are finished with ornamental tops. If, in other styles, a similar method were adopted, it would have a good effect; and, in such small erections, too much care cannot be bestowed on the design for the chimney tops, as they form, or at least ought to do, one of the principal features of the building.

Although this design partakes of the classical style, still, I prefer the Old English, or Gothic; as it must be acknowledged that it is more pictorial; and, with a little modification, as suitable to the various wants of the times. Indeed, I am surprised it has not been much more introduced into our streets and villages, as, with a little attention, it would give them some character; for it is to be observed, that it allows of each individual exercising his own taste as to decoration, without creating so great a contrast as in the classical style. The general forms being similar in outline, and strict uniformity in the parts not being necessary, more improvements would be likely to take place, with less chance of having an ill-assorted motley collection of buildings.

This style is capable of much enrichment; and, in street houses, there are plenty of opportunities for the architect to exercise his abilities in that branch of his profession, by introducing sculptured ornaments, bearing something indicative of the trade of the owner, or the manufacture of the articles which he may have to sell. Not that it is to be wished to see such monstrosities as Lander's blacking shop, near Temple Bar; though, taking into consideration that the idea is original, perhaps it is entitled to as much regard as many buildings of greater pretensions, where columns are crowded into their towering fronts, some placed apparently under weights that would, if really applied, crush them instantly, and others stuck against the walls, painted of all colours, and quite as much out of place as the gigantic blacking bottles, &c., in the instance above mentioned.

The Old English style has certainly one advantage over the other in street architecture; viz. that the principal lines are vertical, which accords well with the narrow frontages; whereas the classical style is not at all adapted to the limited width of single houses, all the main lines being horizontal; the consequence of which is, that no good effect can be well obtained, unless a number of houses are combined in one design, so as to form a whole of some magnitude. And even this plan has one great drawback against its general adoption, as no one or more houses, forming part of it, could be altered or improved, or even coloured or repainted, without destroying the unity of the whole.

REVIEWS.

ART. I. *An Historical Essay on Architecture.* By the late Thomas Hope. Illustrated from drawings made by him in Italy and Germany. Royal 8vo, 2d edition. London, 1835.

(*Continued from* p. 249.)

"THE idea, however, which soon began to prevail among the inhabitants, especially of Italy and of France, that, in the thousandth year after his birth, our Saviour was to re-appear, and the destruction of this globe to take place, must again have produced a considerable interruption in its business, by causing a total suspension of all new sacred structures, and even neglect of those already existing, until the period of the millennium had passed by; and men, again recovering from their fright and shaking off their torpor, felt ashamed of their long neglect of holy edifices, and every where again began to repair and rebuild churches and monasteries in greater numbers, and on a grander scale than before; — in so much that in every country we find a greater number of fine churches founded in the century subsequent to the millennium, than at any other period; — witness, among many others of which the precise date cannot be ascertained, at Parma, its magnificent dome, only finished in 1106; near Venice, in the island of Torcello, the magnificent church of Santa Maria, begun by Orso Orsiolo, bishop of Torcello, in 1008; at Florence, San Miniato, begun in 1013; at Pisa, the dome, begun in 1015; at Chartres, in 1020, the cathedral was rebuilt; St. Benigne of Dijon, begun

in 1005; at Toulouse, the vast church of St. Saturnin; and at old Carcassone, the lofty Lombard cathedral, founded about the same time; at Cologne, almost all the fine churches in the Lombard style which that city so justly boasts; in Normandy, at Caen, the two princely abbeys of St. Stephen, and of the Holy Trinity, built by Duke William previous to the invasion of England; and even at Jerusalem, in 1049, the repairs of the church of the Holy Sepulchre, defaced by the Saracens: indeed, in less than a century after the millennium, the rage for the crusades, by causing throughout Europe, among the great and wealthy, not only a new religious fervour, and wish to prepare both soul and body for the long and perilous journey, or to make amends for staying at home, by religious gifts more liberal than before, but necessitating a general sale, at a low rate, of domains and fiefs, that none but the clergy could purchase, for the equipment of the chiefs and the little armies which each hailed in his suite, gave to the church an augmentation of estates, revenue, and power; and, consequently, produced in every country an increase of religious structures beyond all former precedent.

"The same circumstance even caused, somewhat later, and more circuitously, an improvement in civil architecture.

"The lords bound for the Holy Land, besides alienating their domains to the church, often sold enfranchisements and privileges to the cities under their jurisdiction; and often, also, those cities took advantage of the absence of their lords, to usurp such without their consent. Generally they were supported in their usurpation by the sovereign, anxious to create a new body that should counterbalance that of the barons: and as, in these cities, industry and wealth increased with independence, their rich citizens and their municipal government began to want, and to erect, edifices for civil purposes, extensive and magnificent. From the cities of the Adriatic, and in Lombardy, where commerce, wealth, and a municipal administration first developed themselves, and where we see the first magnificent town-halls, we can trace that species of buildings somewhat later, to the cities in Germany, called Imperial, because wrested from the jurisdiction of the great vassals, and only holding from their common chief, the Emperor; later still, from thence to those of Belgium; to Bruges, Ghent, and Antwerp; and last of all, to Holland, and to Amsterdam. Indeed, while in other countries the barons, even when at home, continued only to reside in the castles on their estates, widely aloof from the vulgar contamination of the cities in the little commonwealths that by degrees grew out of the wrecks of the Lombard kingdom, the smallness of the state, and the greater security of the capital, began sooner than elsewhere to make the nobles themselves abandon the sullen seclusion of the country for the advantages of the city, and to erect the tall towers — the last distinguishing mark of their superiority — in the very midst of the lower dwellings of the citizens. Of these towers, Bologna still preserves a few, and Pavia a whole host.

"It may be asserted, that in the place whence freemasonry drew, if not its first existence and form, at least its vital breath, its all-pervading energy, in the shape of those papal bulls addressed to the whole of Christianity, and received with obedience by every part of it which owned the supremacy of the Pope, it influenced the further developements of sacred architecture in the smallest degree. Rome had gone on declining more and more in internal means and population. The immense basilicas built on the first burst of Christianity out of the remains of heathen temples, had themselves ceased to be wanted for the diminishing congregations. Grass had grown on their pavements, and weeds had started from their walls. A few of the larger, rendered conventual, might have had monasteries and cloisters added to them; a few smaller new churches might even have been erected within the immense precincts of the ancient city, for local convenience; but the only universal addition in Rome to the former sacred structures, was — after steeples had begun to spring up in the seventh and eighth centuries — that of one of those appendages to each of the old churches; and in Rome, whatever had been the original style of architecture, or that of the subsequent alterations in those

churches, we may say that their steeples offer the same form, and bear the stamp of the same age.

"Within the boundaries of the Greek empire, the freemasons, fraught with bulls of the popes of Rome, found no access whatever. In the Greek church the forms first established seem to have been preserved with little variation to the present day; and I may add, that the regions in and out of Europe, which became subject to Mohammedan powers, though they seem to have derived much of their architecture from Constantinople and from the Greeks, appear to have borrowed little from Rome, or from the freemasons. On the contrary, in Spain, over the greatest part of which Mohammedan sovereigns reigned during several centuries, the Christians themselves imitated their first style of architecture, in a great measure, from the Moors. The principal buildings of the middle age are quite in the Mohammedan style of the country; and it was only after the Catholics had acquired a manifest preponderance over the Moors, that we see what is called the Gothic style prevail in churches and other edifices."

Chap. XXII. *Lombard Style of Architecture.* Lombardy was not only the country in which associations of freemasons were first formed, but it was the first, after the decline of the Roman empire, to form a system of architecture, which was called by the French, the nearest neighbours to the Italians, Lombard; an appellation, says Mr. Hope, —

"Expressing the place in which this new system of Latin church architecture was first matured, and, therefore, so universally appropriate, that I shall adopt it in preference, not only to that of Saxon, first given to it in England, but without the slightest foundation,—since the rude Saxons, far from importing any peculiar architecture to the British shore, only adopted in it that of Christian Rome; but equally in preference to that of Norman, subsequently conferred upon it, which only describes the least and most circumscribed continental provinces, whence this architecture was more proximately wafted to the British shore."

The chief characteristics of this style are thus given: —

"The base of the column (the member which in general deviates least in its form from the antique, though more rude and clumsy) is sometimes a mere block, rounded at the summit, squared at the sides. The shaft, only in a few instances,—as in the small columns of Frederic Barbarossa's palace, at Gelnhausen in Germany,—tapered; in general equal in diameter from the root to the summit; the height with any fixed proportion whatever to the diameter. Where (as happened in the North) materials less compact, require, for strength, greater circumference, the columns sometimes appear a short thick trunk, as at old Carcassone, Norwich, Gloucester, and Durham, &c.; but these have been found to be mere cases of squared stones, of which the interior is filled up with mere rubbish, or small stones bedded in mortar. Where materials are more compact, or columns merely stand as ornaments before a wall or pier, the shaft often grows to a tall slender reed, or seems to be a rope descending from the cornice; as in the front of San Michele at Pavia, and of the dome at Piacenza. Sometimes the shaft reaches, uninterrupted, from the base to the capital; sometimes it is, by rings of intervening mouldings, confined to the circumference of each shaft, or carried on string courses from shaft to shaft, divided into different articulations ere it reaches the capitals."

"Of columns and pillars in Lombard edifices, the capitals were, at first, only rude imitations of the Doric, or Corinthian, or Composite: in the ancient Lombard church of St. Gravier, near Aix, pilasters, capitals, and cornices are rudely imitated from the Roman; in the nave and north porch of Autun, they are much better sculptured; the capitals inside St. Apollinaire at Valence re-

semble the Corinthian very closely; the pilasters in the church of Autun, of which the style is Lombard, are in the proportion of the Composite, and fluted, while the capitals are formed of monsters. Afterwards they were made to offer spear heads, or foliage, or scroll work, more variously disposed; as we may see in churches and cloisters innumerable, in Italy, France, Switzerland, Germany, and England."

"Where walls are not adorned with columns, they commonly, and sometimes, but more rarely, where they are, have their surface divided into recessed panels, and their corners strengthened by a species of margin, or buttress, slightly projecting, which at the top connects and grows into one of the range of corbel tables, forming wall plates, made in almost all buildings in the Lombard style, save the absides of the dome of Verona, to mark every new floor, into which is divided the height of the edifice."

(*To be continued.*)

ART. II. *A Lecture on the Dry Rot, and on the most effectual Means of preventing it; delivered before the Institute of British Architects, April* 3. 1837. By Robert Dickson, M.D. F.L.S. Pamph. 8vo, 50 pages.

"IN all cases where wood is wished to be durable, it must be submitted to processes which have hitherto been tedious, and attended with the loss of capital, thus rendered inactive during the years which were required for their completion. These processes are termed seasoning and drying; which are accomplished either by the natural powers of the air, to take up, and carry off superfluous moisture from any body which will readily part with it, or by immersing the timber in water, which dissolves out the mucous and other viscid soluble principles which have a tendency to retain much of the moisture, and thus permit the more speedy evaporation of the watery part, upon the removal of the timber to a dry atmosphere, where there is a free circulation of air, by which the process is expedited; or, to render it still more expeditious, recourse is had to boiling or steaming, the higher temperature rendering the solution of many of the principles more easy.

"Of all these means steaming appears to be that which facilitates the process to the greatest degree, 'the seasoning going on more rapidly after the piece is steamed than when boiled.' (*Barlow on the Strength of Timber*, p. 14.) By all of them a loss of weight is occasioned. Steaming, or boiling, 'impairs the strength and elasticity of timber:' but Mr. Tredgold thinks 'it gives another property, which for some purposes is still more desirable than strength; for boiled or steamed timber shrinks less, and stands better, than that which is naturally seasoned.' (*Carpentry*, p. 157.) The most expeditious of these processes still requires months for its completion, and the wood is generally squared before even commencing them, by which a large quantity of timber is rendered useless for the purposes of construction.

"The object of all of them is to counteract, or, more properly speaking, to postpone the operation of those causes of decay which are inherent in wood and all organised bodies. They effect this, however, in the majority of cases, in a very limited and inadequate degree; for still decay occurs, and succeeds in reducing these structures to dust and ashes."

The author next describes the different modes of decay. The first, which may be called decay by age, commences while the tree is yet standing, and extends from the heart outwards; the next is the common rot, occasioned by alternate exposure to moisture and dryness, heat and cold; and the third is the dry rot, or sap rot, which is the decay of the outer layers of wood,

in consequence of the elements of which it is composed undergoing fermentation.

"It is requisite to know that each annual layer of wood is formed by the descending fibres developed by the bases of the buds situated along the stem and its branches. It requires the action of the leaves, for several successive years, upon the sap, which is conveyed to them for this purpose, to prepare those juices which are ultimately deposited in the layers previously formed, and by which the layers of sap-wood are converted into heart-wood. These principles are generally of a very insoluble nature, and confer both solidity and durability upon the parts where they are lodged. If, therefore, a tree be felled while young, there will be much sap-wood, or a large proportion of the stem will consist of the mere basis of the vegetable fabric, devoid of the principles of permanency, being, on the contrary, charged with gum, starch, or sugar, with a large proportion of albumen, and other fermentable materials, a large quantity of water being also present.

"But even the least soluble of the ordinary constituents of wood — lignin, consists of 50 per cent of water; so that there is no deficiency, in any part of the plant, of the materials of fermentation, which, when once begun, spreads with great rapidity. Nor is the alteration effected only by the play of affinities of the chemical principles existing in the timber, aided by temperature and other atmospheric conditions, but fungi and insects come to the conflict; and, under their combined attacks, complete decomposition is brought about, all trace of organisation is lost, and there remains only a mass of dry dust, similar to that which lines the sides, and lodges in the hollows, of decaying trees.

"It is unnecessary, here, either to describe the ravages, or state the signs of the presence of this malady, the real nature of which seems to consist in the fermentation of the elementary principles, — the kind of fermentation being determined by the atmospheric conditions, of which the chief is temperature; — for we know that the same material, viz., wood, and its juices, would yield by fermentation, under other circumstances, an acid. The putrefactive fermentation is that which occurs from the low temperature, — being the last spontaneous change which organised bodies undergo when deprived of life, 'that mysterious principle which compels all the powers of decomposition to obey its call, to change their nature, and to become powers of recomposition.'

"This overmastering spell being dissolved, the ordinary laws of chemical affinity again come into operation, and by their means a compound body is reduced to its simple elements.

"This series of actions occurs most readily where the elements are numerous; hence substances containing four principles generally putrefy more rapidly than those containing three, such as carbon, oxygen, and hydrogen, the general constituent elements of vegetable bodies; but, as albumen, gluten, and some other proximate principles of vegetable matter, contain nitrogen, these seem to play the first part in vegetable fermentation; but, when the action, however, is once begun, starch, gum, and lignin alike yield to its influence.

"From all which circumstances it follows, that the sap-wood is the part in which the decomposing operations commence; and hence the propriety of the term *sap* rot. With regard to the share which each of the destructive agents has in the whole series of actions, it is enough to state that the fermentation excited by the albumen is the primary and essential, the agency of insects and fungi being only accessory. — Insects attack vegetable structures, both living and dead, chiefly for the saccharine or mucilaginous principles which they contain, and aggravate the evil, principally by hollowing out the substance, and permitting the access of air and moisture; but the part performed by fungi is more obscure, and hence numerous erroneous notions exist respecting them. Some have thought that they were examples of equivocal generation, — an opinion which receives no countenance from any one who has carefully studied their nature, or the mode of their production. The minuteness of

their reproductive matter allows them to escape observation when scattered; but this is always prepared in definite and fixed parts of the structure of those already existing, as much so as that of the seed of a rose or of an apple; but their number surpasses that, probably, of any other vegetables, — while their sporidia, or reproductive particles, can retain the power of vegetating as long, probably, as any seeds."

"It appears to me, therefore," Dr. Dickson continues, "that the whole theory of any successful plan for the prevention of the dry rot must resolve itself into *the solidifying or coagulation of albumen.* This will at once prevent the commencement of the fermentation, which decomposes the original structures of the wood, and the developement of fungi; which are neither the cause of dry-rot, as held by some, nor the effect, according to others, but the incidental accompaniment, when their germs happen to be present in the tissues of the wood.

"Now, this is precisely what is effected by the method of Mr. Kyan; and it matters not whether he invented it, or merely extended a plan in use before, or suggested by others; for, though it was suggested, both by Sir Humphry Davy and Mr. Chapman, before he brought his publicly forward, yet he who by his energy and perseverance brings the method into use dserves to be regarded as the inventor.

"Who, because hints of such an apparatus, or rather such a power, as that of the steam-engine, may be found in the Marquis of Worcester's Century of Inventions, would hesitate to regard James Watt as its practical inventor? — But, passing this question, let us take up others of more moment. Dugald Stewart has with justice observed, that the essence of the philosophy of Bacon, and of Newton, consists entirely in 'ascertaining the universality of a fact.' It will, I apprehend, be proceeding under the guidance of that philosophy, if we attempt to ascertain how far the coagulation of albumen is attended with the preservation from decay of the substances in which it exists. The ancient Egyptians, whether from the peculiarity of their religious opinions, or from the desire so natural to the human heart to shun destruction, and gain perpetuity even for our dead bodies, prepared the corpses of their deceased friends in a particular way; and how perfectly this has preserved them, the occasional opening of a mummy permits us to see. The secret of this appears to be, independent of the careful exclusion of air, in the use of means to coagulate the albumen of the various fluids of the body. What the agent was which they employed to effect this, we now know very well; it was creosote, a principle which modern chemistry has isolated from its combinations."

"We must now inquire how far this method confers durability upon timber for practical purposes. We know the extremely long period which some timber will last; but we also know how liable much of it is to decay; and, as no one can be sure that any given piece of timber, which he intends to use, possesses the qualities requisite for durability, it seems desirable to have recourse to some means which will confer an equal degree of durability upon all the timber employed in the construction of an edifice. We are, I think, warranted in anticipating that such will be the result of Mr. Kyan's plan; which effects the solidification of the albumen, more particularly of the sap-wood; thus preventing it being liable to fermentation, or capable of being dissolved to furnish a pabulum to fungi.

"It likewise wards off the attacks of insects, with a very few exceptions, such as that of the teredo, an aggressor which no wood can resist, except an African wood, of the name of which I am uncertain, but which, if analyzed, might make us acquainted with some principle hostile to so formidable an enemy.

"It is impossible for bichloride of mercury to come in contact with albumen without undergoing decomposition, a protochloride of mercury being formed on the one side, and a solid substance on the other. Bichloride of mercury is thus the established test of the presence of albumen, and so delicate is it, that the addition of corrosive sublimate to any solution of albumen will indi-

cate the two thousandth part, by causing a flaky appearance of the fluid.* On the opposite hand, albumen is the established antidote to poisoning by corrosive sublimate; and, though white of egg is generally preferred, milk, or flour diffused through water, or anything containing albumen, may be employed with success. 'Coagulated white of egg,' Says Mr. Brand, even under water, long resists putrefaction.' Horn is indurated albumen."

"A peculiarity of oak, owing to its chemical principles, is that less alteration on the solution of the corrosive sublimate may be expected to be produced by it than most other woods, for this reason, that gallic acid does not decompose bichloride of mercury; it is worthy of remark, however, that gallic acid solidifies albumen, and, therefore, in this wood, that process is effected by nature, which man is obliged to accomplish by artificial means for other trees, and hence one cause of the durability of the timber of the oak.†

"The solidification of the albumen and other principles, renders timber so prepared less hygrometric, and less disposed, when seasoned (a process which is much accelerated by this plan) to absorb atmospheric moisture."

In answer to the objections to Kyanising, that the quantity of mercury remaining in the wood would injuriously affect the health of the inhabitants of houses or ships, constructed with prepared timber, Dr. Dickson says,—

"The dread of this prevented Sir H. Davy and Professor Faraday urging the employment of corrosive sublimate as a means of preventing the ravages of the bookworm in Earl Spencer's library at Althorp. It is probable that these eminent chemists had in their minds the occurrence of violent, even fatal, salivation of the sailors on board H.M.S. Triumph, in 1810, from the rupture of bladders of quicksilver, and the escape of it about the ship. This event, brought before the Royal Society, and the public, by Sir Wm. Burnett, had probably impressed them with the dread which influenced them. But there can be no parallel between such a quantity of mercury, and the inconceivably small quantity which is sufficient to coagulate a large proportion of albumen. I cannot conceive how any injury can possibly result from it; while some circumstances incline me to think that it may render no small service in a way at present little thought of. The following extract from Mr. Wade's Treatise on the Dry-rot will aid in explaining what I allude to:—'It was formerly the practice to let ships of war remain on the stocks *in frame* for two or four years, to season, as it was called; but there never was, says Sir J. Barrow (*Encyc. Brit.*), a more mistaken notion. When a ship,' Mr. Wade goes on to state, 'is built, exposed to the weather, the lower part forms a grand reservoir for all the rain that falls, and, as the timbers in that part are placed as close together as possible, the wet escapes very slowly. Those timbers are always soaked with moisture, and, to some distance from the keel, exhibit a green matter, which, when viewed through the microscope, is found to be a beautiful and completely formed moss, which vegetates at the expense of the timber.' This is the *green matter* of Priestly, well known to all those who investigate the rudimentary conditions of vegetable matter, and which will form, in any water which is stagnant, even in distilled water, without being in contact with wood, but still more rapidly if it be so. Now, it is a remarkable fact, that 'distilled water over quicksilver does not produce any

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"* M. Lassaigne calculates the composition of the albuminous precipitate to be 6·67 corrosive sublimate, and 93·33 albumen, or 1 atom of sublimate, and 10 atoms of albumen.—*See British Annals of Medicine*, vol. i. p. 562."

"† It must not be inferred from this statement that the application of the solution to oak is unnecessary, for the *outer layers*, or the *sap-wood of oak*, are as liable to decay as any other kind of timber; it is only the heart-wood which is rendered durable by natural means."

green matter.' 'It is very possible,' adds Carus, to whom I am indebted for a knowledge of this fact (see Taylor's Scientific Memoirs, vol. i. p. 233.), 'that the quicksilver, on account of its property of counteracting production, may destroy or prevent the infusorial fermentation, as it has been called.'

"The timbers near the basement of a house, if prepared by Kyan's process, will not, I think, generate that green matter, which is at once unsightly, and, by keeping up a perpetual dampness, injures the wood, and the health of those who dwell in the lower floor of a house.

"It is also worthy of mention, that the bilge-water appears to remain sweet in ships built of prepared wood.

"Holding the question of the preventive power of Kyan's plan to be settled in the affirmative, as far as the dry-rot, in the strictest sense of the term, is concerned, it may be proper to adduce some proof of its preservative effects against insects and fungi. Mr. Curtis, the distinguished author of the 'British Entomology,' has informed me, that since *palings of prepared wood* have been used in the Regent's Park, he can no longer find those insects which formerly abounded there. Farther, the Rev. Miles Berkeley, author of that part of 'Smith's English Flora' which treats of fungi, and who publishes Fasciculi of Dried Fungi, in illustration of that volume, having been annoyed by a fungus called Thelephora puteana springing up in a cupboard, which it rendered constantly damp, he applied a solution of corrosive sublimate to the woodwork; and so effectual did the application prove, that he cannot now procure a single specimen of that fungus, though it would be invaluable to him for the completion of his work.

"Having the evidence of so many different individuals in favour of this plan, none of whom have any pecuniary interest in its being adopted, we must either question their competency to judge of its merits, or admit its validity; since we may well ask —

——'Or how, or why,
Should all conspire to cheat us with a lie?'"

We have given these ample extracts from Dr. Dickson's *Lecture* by the doctor's permission; and we have only to add, that an appendix of twenty pages contains a number of documents from different well-known practical men, all in favour of Kyanising. In our opinion, there cannot be a doubt of its efficacy to a certain extent; but how far that extent goes, the experience of future years must determine. One thing we must caution our readers against; which is the practice of Kyanising logs or planks before cutting them up, and supposing that they have obtained all the benefits of the process. With equal propriety might they paint a log, and then after sawing it up for use, consider the articles formed of it as painted. Such a mode of Kyanising or painting is obviously merely throwing money away; we know wood is frequently Kyanised in this manner by persons in the neighbourhood of London; and when, in a few years, the articles formed of wood so treated begin to rot, this will be attributed to the inefficacy of the process. Before any piece of wood is Kyanised, it ought not only to be cut up into the form required, but even to be planed, when that process is considered necessary, before being sent to the Kyanising tank. It is a great mistake, in our opinion, to suppose that the Kyanising process penetrates further than a few lines

below the surface even of the softest wood. The very circumstance of the corrosive sublimate forming a hardened insoluble compound or surface casing to the wood, a few hours after its immersion, is sufficient to prevent the fluid from penetrating to any great depth; and we can easily conceive a log of soft wood Kyanised, and rendered hard and durable on the outside, while, in the interior, the process of decay was going on. This happens every day with green wood, which has been coated over with paint before it was thoroughly seasoned. In our opinion enough has not been said in Mr. Dickson's pamphlet, or in Dr. Birkbeck's lecture (see Vol. II., p. 236.), on this part of the subject. It is for the permanent interest of the Kyanising Company, to make it clearly and distinctly known to the public, that the wood to be Kyanised ought to be worked, and reduced to the form in which it is finally to remain, before it is put into their tanks. If this be not done, the process of Kyanising may, and probably will, fall into disrepute in the course of a very few years.

ART. III. *The Churches of London: a History and Description of the Ecclesiastical Edifices of the Metropolis.* By G. Godwin, Jun., Associate of the Institute of British Architects; assisted by J. Britton, F.S.A., &c. Nos. 7, 8, 9, and 10.

WE noticed in p. 341., with due commendation, this excellent and very cheap work. No. VII. contains two copper-plates and two wood-engravings of the Temple Church, with the concluding part of the letter-press belonging to that church. No. VIII. contains two copper-plate views and one woodcut, of All Hallows Church, Barking, with the letter-press describing that curious monument of antiquity. No. IX. contains two copper-plate engravings and one woodcut of St. Andrew's Undershaft, with the descriptive letter-press; and No. X. contains two copper-plate engravings and one woodcut of St. Bartholomew's, Threadneedle Street, and one woodcut of All Hallows, Bread Street, with the accompanying letter-press. On the wrapper of No. IX. is the following notice:—

"In reply to the enquiries of some correspondents, the author of the present work assures them, that he intends to give accounts and illustrations of *all* the churches which are strictly within the limits of the city of London: i. e. from Temple Bar, west, to Bishopsgate and Aldgate, eastward, and from Goswell Street, north, to the river Thames, south; and he calculates that the whole will not exceed thirty-six numbers. He hopes to bring them into thirty numbers, by uniting the accounts of two or three churches of minor interest. On no subsequent occasion will one subject extend through two numbers."

And on the wrapper of No. X. the following:—

"The descriptions of St. Paul's Cathedral and the Temple Church may be had separately (each containing four plates), price 2*s.* 6*d.* in boards."

ART. IV. *Ornaments in every Style of Design practically applicable to the Decoration of the Interior of domestic and public Buildings; and intended for the Assistance of the Architect, Builder, Upholsterer, and Decorator; manufactured in Papier Mâché.* By C. F. Bielefield. 4to. 1836.

THE first plate is a perspective view of the interior of the Grocers' Hall, the enrichments of which were executed in *papier mâché* by Mr. Bielefield. Twelve plates follow of details, which have been modelled for different buildings, and which will be found useful, not only to the architect who employs the *papier mâché* in decoration, but to young men who wish to store their minds with ideas for architectural ornaments in the classical style. The introduction of *papier mâché* ornaments in interior decoration is one of the greatest building improvements in modern times; because it affords the use of ornaments, at a moderate cost, which in plaster would have been enormously expensive.

ART. V. *Library Catalogue, and Regulations of the Telford Premiums, of the Institution of Civil Engineers.* Pamph., 8vo, 57 pages.

THE principal part of this tract is occupied with a catalogue of the books, drawings, and manuscripts, which form the library of the Institution, and the next contains the regulations of the Telford premiums. These we quote, for the sake of young engineers who may not have an opportunity of seeing the pamphlet, and who may yet be ambitious of competing for some of the Telfordian medals: —

"The Council of the Institution of Civil Engineers, considering it desirable that the interest of the Telford Bequest should be distributed annually in premiums, provided objects sufficiently deserving of this mark of distinction present themselves, have directed the following resolutions respecting these premiums to be printed: —

"1st. The premiums shall be honorary, or honorary and pecuniary, or pecuniary simply.

"2d. The honorary premiums to consist of a Telford medal struck in gold, silver, or bronze.

"3d. The honorary and pecuniary premiums to consist of a Telford medal and such sum of money as the circumstances of the case may seem to require.

"4th. That all communications made to the Institution will be considered as subjects for the premiums, no distinction being made in awarding the premiums, between the communications of Members, Associates, or others in no way connected with the Institution, whether natives or foreigners.

"5th. The Council will not allow exertions in aid of the Institution to go unrewarded; they consider that those who forward the great objects which the Institution has in view as entitled to the marks of distinction which these premiums will confer.

"The following are the premiums which have already been awarded: — To

Mr. Timperly, for his Account and Drawings of the Docks at Hull, a gold medal.* To Mr. Albano, for his Account of the Stone Bridge over the Dora at Turin, a silver medal. To Mr. Barlow, jun., for his Theoretical Investigation on the Form of Lock Gates, a silver medal. To Mr. Gravatt, for his Improvement on the Spirit Level, a silver medal."

"With the view of pointing out the subjects which are considered as peculiarly fitted for communications, the Council have directed the following extracts from the Address of the President to be appended:—

"'You would be pleased to see, by the Secretary's Circular, that the attendances of last year, the discussions, the communications, the presents received, and the state of our funds, justified the account which was given of the flourishing state of the Institution.

"'Since the recess, the first volume of Transactions has been published—the copies are in your possession. Thus we are now launched into the public, not of England only, but of at least three quarters of the globe; for our volume is now on the way to America and India, as well as to almost all parts of Europe. As Members of the Institution, as well as individuals interested in the character which the profession of a British Civil Engineer bears, we must not spare any pains to support that character in the public opinion. The Institution existed many years before the first volume of Transactions was published; but that is no reason why so many years, or more than one year, should pass before the publication of another volume, or, at least, part of a volume. The stage of infancy and childhood must be considered as past—by publishing, we have announced our Institution as arrived in some measure at maturity; and we must not allow the least appearance of decay or premature old age. We have the means:—the *will* to collect and to communicate is the only thing wanted. The materials are abundant—they are in the hands of almost every resident, who has the charge of a public work or public survey, whether river, canal, railroad, or public building, or who has the opportunity of seeing their working after they are finished. And if gentlemen in such situations, particularly young residents, would impress themselves with the feeling that they ought to communicate their observations, the benefit would be reflective by leading to the habit of recording observations—a practice most useful for the obtaining of knowledge.†

"'A person qualified to be a Member or an Associate of this Institution cannot possibly visit a public work, or examine the survey of a river, canal, or railway, without seeing abundant materials in the hands of the resident Engineer or Surveyor, for useful practical communications. When urging this, I have frequently been met with the reply that the individual did not suppose such papers would be acceptable. Here is a great mistake. Every new fact, however *isolated*, is of great value to the Institution, one of the important objects of which is to collect and record facts. And it cannot be too generally known that these will be considered as furnishing most valuable materials for the Transactions. I hope that the volume just published will serve to rectify this mistake, for, on referring to it, it will be found principally to consist of such practical papers; the Council considering these as more desirable for publication than theoretic inquiries, or analytic calculations, though not to the exclusion of the latter. Observations of facts may be considered as experiments on a large scale; they ought, therefore, to be more correct than the latter, and will be so if only carefully made. To make experiments on a large scale is

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"* The manuscript of this communication is a most beautiful model for imitation.

"† The importance of keeping a daily, nay, in some cases, even an hourly journal, cannot be too strongly impressed on the mind of every Engineer; the amount of information which has been lost from the neglect of this practice is incalculable.

often difficult, and so expensive that it can rarely be undertaken, solely for the sake of the experiments: but when the observations are made in the course of the profession, they are the cheapest in the making, and, moreover, the most valuable when obtained. Some, indeed, cannot be depended on, unless made at full size, particularly hydraulic experiments. where, to use the expression one of our Honorary Members, 'we ought to have a model of the water,' to be correct in experimenting upon it with models: and there is the same objection to all experiments with models, wherever friction is concerned. How valuable, therefore, are observations made in the most simple case, as a foundation for theory! To note the velocities and resistance at different speeds of a boat in a canal, with a section and description of the canal and boat; to register the velocities of a river in different states, with the fall or slope of the surface, and the section in each case, noting also the differences of the velocity between different parts of the same section; to observe the actual discharge of sluices under different circumstances, and the work actually done by water; to record the construction, &c., of sea-walls and river and canal banks, and where a failure takes place to enquire into the cause of it — is the duty of the person who has the charge of the survey or work, and I hope he will consider it his interest, as well as his duty, to communicate these observations to the Institution.

"'The remark has been made, that our first volume contains little or nothing on railways; — this is true; they have formed the subject of many conversations, but we have very few papers upon them. Yet what opportunities have gentlemen had of enriching the Transactions by papers on this comparatively new subject! But it is needless to indulge in these reflections, the harvest is yet to reap: and I hope that during the present session we shall have many communications on this important matter to store our next volume: — a report on the construction of the foundation of railroads, particularly in cases of difficulty, or the form, weight, &c., of the parts; and still more, if possible, on the performance of locomotive engines at different speeds and upon different inclinations, the limit of adhesion, the effect of curves, the wear of the parts: — these are but a few of the many points on which information is very desirable. The experiments, probably, have been made, and the results noted, but they remain in the Engineer's pocket-book; not that he makes any secret of them, but because he has other engagements, and does not suppose they are worthy of his trouble in giving, or ours in receiving. This is, as I have said, a great mistake, and forms almost a national reproach. A French gentleman, Chevalier de Pambour, during his stay in this country, made, through the known liberality of the Directors of the Liverpool and Manchester Railway in such matters, a series of experiments, and has *alone* done more in classing and communicating the results in his excellent publication, than all that had been done before.

"'Let it be remembered, also, that we have medals and premiums to adjudge, and that the Council will not allow exertions for the good of the Institution to pass unnoticed.

"'I have thought it my duty to say thus much on an important subject, and I hope the Members, and more particularly the Associates who are present, will respond to what I have said by their early contributions.'"

ART. VI. *Report by a Committee of the Society of Arts in Scotland, on the best Alphabet and Method of Printing for the Use of the Blind.* 34 pages, with a large folding Plate. 1837.

THE subject of this pamphlet is very interesting in itself, and does great honour to the humanity of the active members of the Society of Useful Arts, in Scotland. It is a gratifying proof of

the advanced state of civilisation, to see the sympathies of the many called forth by the privations of the few; and much might be said upon the subject, were it not foreign to the purpose of this work.

Art. VII. *Literary Notice.*

La Villa Pia des Jardins du Vatican, Architecture de Pirro Ligorio, publiée dans tous ses Details par J. Bouchet, Architecte ; xxiv. Planches gravées au Trait sur Acier par Hibou ; avec une Notice Historique sur l' Auteur de ce Monument, et avec un Texte descriptif, par Raoul Rochette, Antiquaire. — The work will be published at 32 francs to subscribers, and 35 francs to non-subscribers. It may be obtained through any London bookseller who has a correspondent in Paris. The Villa Pia is universally allowed to be the most complete of its kind in Rome; and this work will, in consequence, be hailed with satisfaction by all architects who have enjoyed the advantage of seeing it.

MISCELLANEOUS INTELLIGENCE.

Art. I. *General Notices.*

Magnitude, when joined with irregularity, and that apparent irregularity is reducible, after a slight inspection, to symmetry, is doubtless a higher kind of beauty, than symmetry obvious at first sight; but that irregularity which is not reducible to symmetry is a kind of beauty in architecture which may surprise at first, and to which the mind may be reconciled by the history of the building, but it is one which can never be attended with satisfaction in the case of a building newly erected; unless it were an avowed imitation of some other building or class of buildings already existing. Irregular buildings, then, that cannot be reduced to some principle of symmetry, order, or imitation, cannot be considered as being possessed of architectural beauty. — *W.*

The Dry Rot. — Our correspondent, Dr. Mease of Philadelphia, in a paper read before the Royal Society, recommends the following method for preventing the occurrence of the dry rot in ships: it is, to impregnate the timbers and planks with common salt, as practised by the ship-builders of Philadelphia. For this purpose, all the spaces between the timbers and the outside and inside planks, are to be filled with Spanish or Portuguese salt, driven down as the filling proceeds. The salt is found to penetrate thoroughly, and completely to saturate the wood, combining with its native sap, and preventing fermentation, and the consequent evolution of foul air. The principal inconvenience attending this method is, the dampness it produces in the ship; an evil for which the author suggests various remedies.—*Cond.*

Forms of Heating Apparatus. — In reference to the forms of heating apparatus, I conceive them to be very immaterial, if the condition be fulfilled of providing a surface sufficiently developed to impart the required temperature to the air, without itself ever being hot enough to act on the dust which is floating in the air: that is, that the surface of the apparatus shall never much exceed 100° of Fahr., and if under it so much the better. It is quite evident that if heat is to be supplied to one side of a plate or tube, and to be extracted from the other side of it by a rapid current of air passing over it, it matters nothing whether this heat be supplied by the direct action of fuel, or by vapour of water, or other means, provided it be never allowed to pass a certain limit. If the plate or tube be heated to 212°, no difference of effect can be produced on the outer surface, by this heat being imparted in one case by steam, and in the other by hot air, or by flame; and the only reason for preferring steam in certain cases is, the impossibility of overheating the surface by mismanage-

ment, when it is the medium employed in heating the pipes or plates. — *C. London, June*, 1837.

Cemeteries.—It was not until the eighth century that cemeteries were allowed to be adjacent to churches; and it was only by slow steps that interments encroached within the sacred walls themselves: it was only then permitted to persons of rank and eminence, who often built an attached sepulchral chapel; and the present unrestrained access has prevailed only in recent times. It is a practice which, as being at once unbecoming to the sacred edifice, occasionally injurious to the structure, and always deleterious to the congregation, ought to be abolished. Cemeteries in pleasing and suitable situations, on the outskirts of all large towns, are far better. How long will burying grounds be allowed by law in London? Let me refer our legislators to one beneath their very noses, from the precincts of which it was proposed to draw their supply of pure air, in the experiments now going on in the venerable hall of St. Edward! Let them think upon the indecency of an immense population constantly spurning beneath their feet the remains of what was once lovely, venerable, and honoured. The horrible scenes which are there enacted every morning at an early hour are only to be paralleled in a metropolitan cemetery, to say nothing of the effluvium which usually follows the "*probe*"; yet custom makes us quiet in this metropolis, under these and other horrors which humanity shudders at. So long ago as 1814, the commissioners for the improvement of Westminster reported to parliament that St. Margaret's churchyard could not, consistently with the health of the neighbourhood, be used much longer as a burial-ground. (*Bardwell's Temples*, &c., p. 155.)

Art. II. *Foreign Notices.*

FRANCE.

Report on the public Buildings in Paris for 1836. During 1836, fifteen monuments and public buildings have been completed at the expense of the administration, and five at that of private individuals.

Monuments and public Buildings belonging to the State finished in 1836. On the right bank of the Seine. The triumphal Arc de l'E'toile (commenced in 1806, by order of the Emperor Napoleon, who wished to raise an imperishable monument in honour of the French armies) has been completed, in 1835, thirty years after its commencement, at an expense of ten millions of francs. The building on the Quai de Billy, destined to serve as a depôt for the provisions required in war. The church of La Madeleine, which was commenced in 1806, and intended to contain the trophies of the grand army, and which has cost thirteen millions of francs. The Obelisk of Luxor, raised at an expense of 560,000 francs. The church of Notre Dame de Lorette. The church of Saint Dénis of the Holy Sacrament, Rue Saint Louis, in the Marais, which was destroyed during the revolution, and was begun to be restored in 1805, is now completed, having cost less than six millions of francs. The two large prisons in the Rue de la Roquette; the Quai de la Ferraile; 16,000 yards of sewerage in different parts of the town; 300 boundary fountains put up; 50 streets paved, according to the new system of having them highest in the centre, and sloping towards each side, and many of them with two causeways; 500 gas lights, erected for lighting the bridges, quays, squares, markets, and streets; numerous trees planted along the quays, from the Pont Royal to the Bridge of Austerlitz, and in several of the public squares; and the large building for the office of the Minister of Marine.—On the left bank of the Seine. The edifice in the Rue Saint-Eloi, for the reception of the archives of the Court of Accounts; the Hôtel Dieu, rebuilt according to the new line of road; the infirmary of the E'cole Polytechnique; the establishment for the deaf and dumb; the poultry market of La Valleé; the elementary schools in the Rue du Pont de Lodi; catacombs and a chapel dedicated to the Holy Virgin aux Invalides; 5,400 yards of sewerage; 20

streets paved according to the new system; 100 boundary fountains, and 200 gas lamps put up; various plantations formed; a bridge thrown over the Bièvre, at the passage of the exterior Boulevards; the demolition of the Porche Belle-Chasse, and the reconstruction of the barracks; a pavilion in the Rue de l'Université, to serve as a depot for the marine charts; the new Rue Racine; and the Musée Dupuytren.

Monuments and public Edifices nearly finished at the end of 1836. The additions to the Museum d'Histoire Naturelle, consisting of a gallery of geology and mineralogy, a range of hot-houses, and reservoirs for water, buildings for monkeys, which cost upwards of five millions of francs. The restoration of the ancient buildings of the Collège de France; the new buildings on the Place de Cambray, which were begun in 1828, and have now been completed for less than one million of francs. The Panthéon, commenced by Louis XV. for the service of the canons of Saint-Généviève, and afterwards used as a place of sepulture for great men, has been now finished, at an expense of upwards of four millions of francs. The Artesian Well, in the court of the abbattoir at the Barrière de Grenelle, bored to the depth of 1200 ft. The Hôtel de l'Archevêche, Rue de Varenne; the embellishment of the Boulevards des Italiens and Montmartre; and the cleaning and improvement of the Faubourg Saint Honoré.

Public Edifices belonging to private Individuals finished in 1836. The magnificent Passages des Panoramas; the markets of La Madeleine, and the Foire Saint-Laurent; the theatre Saint-Antoine; and the Musard concert-room, Rue Neuve Vivienne. Besides these, the Quays of L'E'cole, La Grève, and St. Paul, are far advanced; the piles for the suspended passage between the Quai des Célestins, the Isle Louviers, the Isle St. Louis, and the Quai St. Bernard, are nearly all driven in; the foundations of the fountain in the Place de l'Ancien Opera, Rue de Richelieu, have been laid, but the basin and group have not yet been constructed. All the parts of the bronze Monument de Juillet (in memory of those who fell during the three days of July, 1830), are cast, and only require to be put together: this monument will cost 900,000 francs. The church of Saint-Vincent de Paul, in the Place Lafayette, is completed, as far as regards the walls; but the roof and sculptural ornaments are yet to be constructed. The embellishments of the Place de la Concorde are about to be commenced; and the railroad from Paris to St. Germain has been commenced. A great number of sewers to the street have been formed; the buildings of the administration of the Hôtel Dieu are in a forward state; the foundations of the Chamber of Peers at the Luxembourg are laid; the grand reservoirs for water in the Rue de Racine are far advanced; the chapel of the seminary of Saint-Sulpice is built as high as the cornice; the E'cole Royale des Beaux Arts is to be finished in 1837, for about three and a half millions of francs; the Hôtel du Quai d'Orçay, commenced in 1810, and destined for the office of the Minister of the Interior, is also to be finished in 1837, and is to cost less than ten millions of francs. The enclosing of the depot of marbles is advancing rapidly, as well as the façade of the E'cole Polytechnique, in the Rue Descartes. The works in the harbours of Saint-Bernard and Miramiones, which were but little advanced, have been interrupted from the irruption of water.

Private Buildings. It is estimated that more than 200 houses were completely finished in the year 1836, and more than 500 others are now building in the suburbs. A number of buildings have also been erected near the Barrières, particularly at Batignolles, consisting of manufactories, workshops, warehouses, &c. (*L'E'cho du Monde Savant.*)

Artesian Wells.—The Artesian well at Grenelle has been bored to the depth of 1260 ft., and it is expected that 1500 ft. will ultimately be reached. (*L'E'cho du Monde Savant*, Aug. 23. 1837.)

A temporary Bridge of Ropes, during the fair at Troyes, imitating the principle of the iron suspension bridges, was thrown across the Seine, for the accommodation of foot passengers. It was the work of a carpenter of that town, and is

likely to be adopted in other parts of that district where the river is not very wide. (*Newsp.*, Sept. 12. 1837.)

EGYPT.

The Bridge of the Nile. — The gigantic bridge of the Nile, which has been so long projected, is now on the point of being commenced, and it is expected to be finished in the space of six years. This remarkable structure will be built at the point of the Delta, five leagues below Cairo. As during winter, and a part of spring, the waters will be too low to serve the purposes of agriculture, the bridge will be made in such a manner as to serve for sluices to raise the water to the necessary height. The cultivator will thus be saved a great deal of trouble and pains, and will only have to direct the water into the canals for the purposes of irrigation. It is calculated that 24,000 workmen will be employed in levelling the bed of the river, raising the banks, and cutting the canals for irrigation; besides 340 smiths and 650 carpenters from the arsenal at Alexandria. So great a number of labourers will not easily be found in Egypt; but four or five regiments will be employed on the works. The stones required will be transported by means of a railway, extending to the mountains of Mokatam, two leagues from the Nile. (*L'Echo du Monde Savant*, Aug. 12. 1837.)

NORTH AMERICA.

State of public Architecture in the United States. — A rather illiberal remark was made on the Americans in the last number of the *London Quarterly Review*, in first assuming that their architecture in general was mean and spiritless, and then concluding that they are generally an irreligious people, in consequence of the style of their church architecture. It certainly does not follow that those nations that build splendid temples of worship in the Grecian or Gothic architecture are, therefore, decidedly religious. Nor is the *ipse dixit* of the reviewer true, either in fact or conclusion. In the United States there are many splendid temples for religious worship, not on a scale of magnificence to equal the St. Peter's of Rome, or the St. Paul's of London, nor the ancient abbeys or minsters of this country, yet, generally speaking, on a par with many or most of the modern religious edifices throughout the United Kingdom. And, were it not so, the conclusion of the reviewer is a perfect non sequitur, proving nothing but his own hostility to the institutions and government of the country that he seeks to condemn or censure, at the same time displaying palpably his own ignorance. There are numerous superior specimens of architecture in the United States, which, although neither antique nor original, are surely highly creditable to the genius and generosity of the American people. Many instances might be enumerated in Boston, New York, Philadelphia, Baltimore, Washington, and other cities, of different public buildings; and, assuredly, the United States' Banking House at Philadelphia, built on the model of the ancient Parthenon, excels in elegance, and equals in utility, the edifice, not only of the Bank of England, but that of any banking house in the world. Yet this subject is noticed now, merely to allude to two edifices, in one of the new cities in the American union, where splendid architecture was least expected; these are a hotel and theatre in New Orleans. The Exchange Hotel of New Orleans, in St. Charles Street, is probably the largest of its kind in the world now extant. It has been erected by a company of merchants, chartered with banking privileges, and a capital of 2,500,000 dollars. The cost of the ground and building has amounted to upwards of 600,000 dollars, or about 150,000*l* sterling; and the cost of the furniture alone, extra considered, is about 30,000*l*. The hotel is 228 ft. in front, by 196 ft. throughout, or square; the front view is elevated on a plain basement 14 ft. high, in the centre of which is a portico containing 6 columns projecting from the main building, with 4 also on either side receding inward, all in the Corinthian order, and forming an elegant colonnade along two thirds of the front, the other third being solid, and ornamented with pilasters of the same architecture. It is 6 stories high. From the basement to the top of the cornice the height is 71 ft.; but there is an

octagon in the centre of the building 70 ft. in diameter, which is raised 53 ft. above the roof, and surmounted by a dome of 23 ft. high, and 46 ft. in diameter. Above this dome is a tower or observatory 35 ft. high; the whole height being 113 ft. from the ground. The basement story contains 14 shops, besides a large bathing establishment containing 14 compartments, elegantly furnished and adorned. The other part of the hotel contains 350 rooms, 14 of which are parlours with bed-rooms attached, adapted for private families. The gentlemen's dining-room is 130 ft. by 50 ft., and 22 ft. high, having two rows of Corinthian columns running longitudinally on either side, with three splendid lustres dependent from the centre of the roof. This room can comfortably accommodate upwards of 350 gentlemen at once. The ladies' dining-room is 60 ft. by 30 ft., at one angle of the hotel; opposite to which, on the same side, is the ladies' drawingroom, of the same size, and splendidly furnished. The basement part of the octagon is devoted to a restauratant and a beer room, for the refreshment of citizens generally. Over that is a grand saloon, with periodicals and various accommodations for boarders. This grand saloon is entered by two flights of stone steps, on either side, ascending to the colonnade rearward, in the centre of which is erected a beautiful statue of General Washington, sculptured from the finest Carrara marble, the donation of John Hagan, a private merchant of New Orleans. The statue is 12 ft. high, exclusive of the pedestal. The theatre of New Orleans is on a similar scale of magnificence and magnitude, but it has been the work of one enterprising individual, James Caldwell. To form an idea of its size we may compare it with the other principal theatres of Europe. The number of tiers of boxes including galleries is, in the Milan opera, 7; Paris opera, 5; Covent Garden, 5; Drury Lane, 5; New Orleans, 5; Naples, 7; St. Petersburg, 8. The number of boudoirs attached to boxes is, in Milan opera, 180 rooms; Paris opera, none; Covent Garden, none; Drury Lane, none; New Orleans, 47; Naples, 190; St. Petersburg, 200.

The size of the grand saloon is, in Milan opera, 100 ft. by 24 ft.; Paris opera, 96 ft. long; Covent Garden, 56 ft. by 19 ft.; Drury Lane, 90 ft. by 26 ft.; New Orleans, 129 ft. by 26 ft.; Naples, 82 ft. by 20 ft: St. Petersburg, 125 ft. by 30 ft." (*Morning Chronicle*, July 11. 1837.)

Art. III. *Domestic Notices.*

ENGLAND.

The New Houses of Parliament. — Though these may be said to be actually commenced, a contract having been entered into with Messrs. Lee for embanking the river, and founding and carrying up certain walls on that side of the intended buildings; yet there is so much sound sense in the following letter by Mr. Savage, that we think it well deserving of record in the *Architectural Magazine*. Besides, there is yet a possibility of a new site being chosen; and, if this be not the case, we have no doubt that in a very few years the present one will be discovered to be as unwholesome as the site of the New Palace. We greatly admire Mr. Barry, both as an architect and a man, but we cannot reconcile ourselves either to the present site, or to the Gothic style of architecture, for modern houses of legislature. Mr. Savage's letter is addressed to the editor of the *Morning Herald*.

"Mr. Editor, You having again called the public attention to the designs for the new parliamentary houses, permit me to suggest a few remarks on the very important subject of their proper ventilation. The importance of this essential object has been so generally felt and asserted that, perhaps, it may be thought superfluous to urge it further. But we often see that a subject, being taken for granted, is as much forgotten and neglected as if its truth and value were still disputable; and the best hope of obtaining an object is, when those who can command it have a clear view of the reasons of its importance, and also of the best means of effecting it. Without further preface or apology I there-

fore proceed to submit a few observations which I conceive may be useful. The intimate connection and sympathy of action between the different parts of the human frame are well known, and among other examples is the balance which constantly obtains between respiration and digestion; and so important has digestion been found to the health of man, that by many it has been considered the one thing needful. Now, free and easy respiration (the most powerful means of inducing a healthy digestion) depends on the purity of the air inhaled; and, perhaps, the principal cause of the superior health enjoyed by the ploughman above that of the careworn statesman, or the clerk at the desk in a merchant's counting house, may be principally traced to the difference of the air which they breathe; the one pure and cool, the other heated and charged with noxious gases. I was much pleased with Dr. Reid's evidence before the parliamentary committee of last year, and had great expectation of his success; because it appeared to me that he had adopted the same view of the subject as the late ingenious Mr. Tredgold, whose *Treatise on Warming and Ventilating*, like all his works, exhibits the most careful research and profound reasoning, and a constant attention to practical utility. But Mr. Tredgold's principles have been neglected in some material points. I was less sanguine of Dr. Reid's success with regard to his plans for facilitating the hearing and speaking in the houses, because some of the facts he stated were contradicted by my own experience, and some of his provisions appeared to me calculated to interfere injuriously with the means proposed for ventilating. The experiment is stated to be, to a considerable extent, a failure. Nevertheless, from the paramount importance of the subject, I do not think any well-wisher to his country will regret the expense of that experiment.

Without a good theory, we can never have a sure and safe practice; and as practice and experience are the proper tests of theory, we cannot expect to arrive at a correct theory but by experiments more or less expensive. In hopes of promoting the end in view, I submit the following points to the consideration of those who may have the power to prosecute the question to a satisfactory conclusion.

It is agreed that hearing and speaking are facilitated by the density and coolness of the atmosphere, and that the greatest degree of cold in the air is not found to be unpleasant for breathing, when it is without motion. The coldest air of the polar regions was not found unpleasant when free from current, but as soon as any wind arose it became intolerable. It is also agreed that sounds are heard most clearly and distinctly, and to the greatest distance, at night, when the air is still, and the multitudinous noises of the day have ceased. Circumscribing walls are therefore of no use to assist in speaking or hearing, except to keep out extraneous noises: and Dr. Reid condemns the attempt to use the floor or upright sides as reverberators, but recommends that the ceiling be used for that purpose; and that the ceiling be therefore brought down so low as to act as a reflector, too rapid in its reflection to occasion echo. The suggestion was plausible, but the experiment has failed: and I rejoice to find that in this failure we have another evidence of the general harmony of the principles of nature; viz., that what is most useful is also most beautiful. In a lofty room we have at once a greater beauty, and a greater capacity for pure air. The necessary change of air, by allowing the impure exhalations to escape at the upper part as they rise, and the supplying the deficiency by pure fresh air from below, can be effected with much less rapidity of current in a lofty room, than in a low one. In fact, the upper part of the chamber may be considered as a reservoir of the impurities which are generated in the air of the chamber; and they may remain in the upper part of a lofty room for a considerable portion of time, without injury to those who are near the floor. Another important point to which I wish to direct attention is, the necessity of separating the means for warming from those for ventilating; that is, separate means for each. Thus each may be made quite manageable, but when attempted by the same machinery I have never known them to succeed. The

objects to be aimed at should be pure and cool air to breathe, and radiant heat to warm the person. The evils to be avoided are currents and draughts, whether *hot* or *cold*, and overheated air for respiration. These *desiderata* may be easily effected by proper means separately supplied in sufficient power and magnitude. The failure of the present temporary houses, I think, is to be attributed to the lowering of the ceiling, and to the attempt to warm the house and the members by the air supplied for respiration. Tredgold strongly insists upon the superiority of *cool* air for respiration, and radiant heat for warming the person. As connected with the subject of the purity of the air, and the healthy occupation of the houses, allow me to call attention once more to the site.

The first requisite of a building designed to be habitable is, that it should stand high and dry. In the present case it is of far greater importance than in that of a mere private residence. Upon an average, 2000 persons will be constantly engaged within the walls of parliament during the session, and most actively engaged, precisely at that season of the year which, under the most favourable circumstances, is unfriendly to health. It has been often observed, that the greatest enemy to the human frame is damp. On this account it is of very great consequence to obtain for every habitation a site sufficiently elevated to allow of a good drainage, and as far removed as possible from any source of continuous and extensive evaporation. But what is it now proposed to take for the site of the new buildings? The very lowest level to be found in the metropolis. The present houses are much nearer the water than would be deemed prudent for a nobleman's seat; but, in the new design, in order to gain room for the accommodation required, they are placed partly on an artificial embankment, to be formed on what is the present bed of the river. This embankment, or terrace, will allow in summer of a very pleasant promenade; but in the winter months, when the houses meet, it is not likely to be a favourite resort of members. Exposed to the unbroken violence of the east winds, or enveloped in fogs, the terrace, and all the rooms looking upon it, will be far from agreeable; and the speaker's house (he being of necessity a resident) has no garden or outlet at all wherein he or his family may exercise. The tide is actually to wash the walls of his castle, and on its recession he will be regaled with the effluvia of the mud and bilge water.

The mortality among the members of the House of Commons is already greater than among any similar number of men belonging to the same rank in life, and the anxieties, fatigues, and late hours, to which they are exposed, render it much more important than it would be in any other case, that they should be shielded from all noxious influences, which it may be possible to avoid. A second requisite is, that the buildings should be of convenient and easy access, for which purpose they should be centrally situated in respect of the metropolis. A more inconvenient site, however, than the present could not well be selected; it is a complete *cul de sac*. The existing buildings are nearly two miles distant from the residence of the great majority of the members. On the other hand, it must be admitted, that the business of a deliberative assembly should not be conducted in the midst of the noise and bustle of a great public thoroughfare, or in a densely peopled neighbourhood, where a riotous mob might be collected at a moment's notice. The first step should be to abandon the idea of erecting the new houses upon their present site, and to select another better adapted to the object. The best site yet named is that of the Green Park. This locality is sufficiently central, the majority of the members living north of Pall Mall, and west of Regent Street; sufficiently elevated, being 30 ft. above the level of the Thames at high water; removed from the noise of the streets, and an open spot on which buildings intended to be an ornament to the metropolis might be seen to the greatest advantage. The buildings may be entirely insulated and accessible from all directions.

Against moving the site, two objections have been urged: first, the association of ideas connecting past statesmen with St. Stephen's Chapel;

and, secondly, the contiguity of the Law Courts. A word in reply to each of these. The destruction of the houses by fire, and the complete change of the plan in rebuilding, must totally destroy all association in idea of the new houses with the illustrious statesmen whose eloquence has shed unfading lustre upon our parliamentary annals, unless it be that *moral* association, which may as easily travel across the Park, as to a building of a totally different form, distant only 100 yards.

As to the supposed convenience in the contiguity of the Law Courts, it should be recollected that the courts sit at Westminster only a part of the time of the sitting of parliament; at all events the health and convenience of those members, who attend the most sedulously to their parliamentary duties should far outweigh these hypothetical and partial inconveniences. — *James Savage.* 31. *Essex Street, Strand, March* 7. 1837. (*Morning Herald*, March 15. 1837.)

A Suburban Villa Company is projected, the object of which is, to select situations and build houses, and lay out gardens, on the most approved principles of taste, comfort, and economy. The capital intended to be raised will be such as to enable the company to make all their purchases in ready money, by which means alone, they will have considerable advantages over most builders; but the advantages to the company will be but trifling, compared with the benefits which the public will derive in getting, through their means, more elegant, durable, and healthy houses. — *Cond.*

Isle of Anglesea. — *Holyhead Harbour.* According to the last official report of the commissioners for the improvement of the road from London to Holyhead, the following important works are now in progress at the important station of Holyhead; the fixing of the cast-iron posts that have been provided for supporting the protecting chains on the north side of the harbour; the improvements of the road between the north pier and the swivel bridge, which would have been completed some months ago, had it not been reserved as an employment for the men who are working with the diving-bell, when stormy weather occurs; lime is burning for pointing the face of the north pier: timber is provided for two mooring buoys; the carpenters are proceeding with the repair of the workmen's cottages on the Salt Island; the diving-bell is engaged in cutting down rock within the packet berths, and as soon as that important work is finished, it will be employed in cutting away other detached portions of rock which have been ordered to be lowered. It may be interesting to add, that the number of vessels that entered this harbour during the year 1836, exclusive of king's ships, pleasure yachts, and the steam packets and coal vessels employed by the post-office, was 833; the registered tonnage was 12,296. (*Shrewsbury Chron.*)

Essex. — *Two Protestant Episcopal Chapels* are proposed to be erected and endowed in the parish of Hatfield Broad Oak, Essex, each capable of holding from 260 to 300, with accommodation for schools, but no gallery. The one which will be situated on Hatfield Heath is to be designated the *Holy Cross*; the other, on the Forest, near to the school house at Bush End, to be known as the *Holy Trinity*: and it is the wish of the party into whose hands the designs will be submitted, that the form of each plan be made to answer to its respective designation. — *Frederick Lush. London, September* 28. 1837.

Oxfordshire. — *The Conservatory at Ditchley* (*fig.* 120.) is now completed. In the ground plan (*fig.* 121.), *a* is the state apartment; *b*, the dressing-room; *c*, proposed conservatory; *d*, the terrace; *f*, the garden; *g*, the park. The conservatory connects the main body of the mansion with the western wing. It faces a flower-garden that was formed by the present dowager Lady Dillon, but, most unfortunately, it has a north-west aspect. It is true that, at the present season (July), the sun shines on it as early as 8 or 9 in the morning: but, in winter, I fear that will not be the case before mid-day. It is amply provided with the means of ventilation, for the wooden front lights are made to slide down into the basement wall, and the iron top lights are made partly

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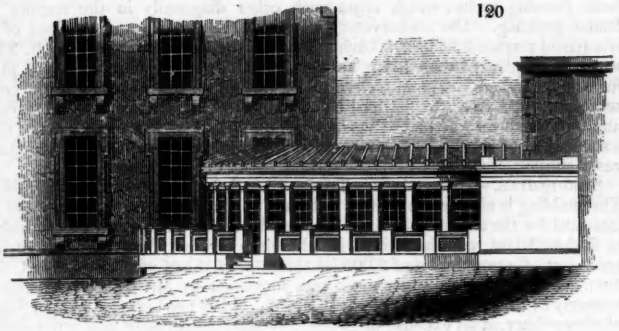
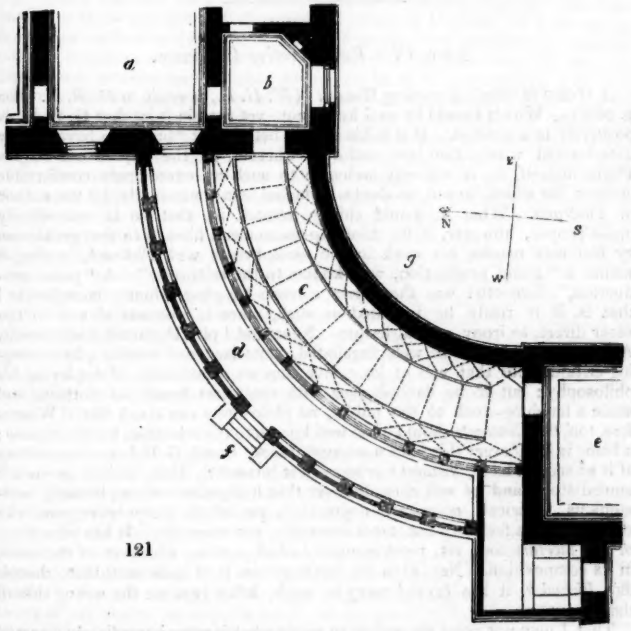


movable. The building is heated by warm water, contained in four 2-inch copper pipes, which run its entire length in a perforated iron kerb 8×8 that separates the flower border from the paved footway. In winter, the temperature may be raised, if required, as high as 50° or 60°. The flower borders are 3 ft.



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9 in. broad, and the treillage standards are let into stone bases 7×7 that never approach within 1 ft. 3 in. of the warming apparatus. The earth is 2 ft. deep, and drains are provided to carry off all superfluous moisture. There are 54 standards for climbing plants, and they are connected at top by circular iron

rods, forming arches which cross each other diagonally in the manner of Italian groining. The conservatory is about 11 ft. high; and in front of it is a paved terrace 8 ft. broad, having flower borders on each side of it 1 ft. 3 in. wide, to be planted with hardy annuals, small flowering shrubs, and a profusion of climbers. The latter are to be trained up the pilasters of the conservatory, and over the latticed balustrading of the terrace. Other shrubs and climbers are to be placed against the outer face of the terrace front, and a succession of handsome flowering plants in pots are to be placed in the tazza vases surmounting the piers of the terrace. — *R. V. Worcester.*

SHROPSHIRE. — *Shrewsbury.* Trinity Church in this town is just finished. The building is situated in Meole Coleham, in the parish of St. Julian, and is intended for the accommodation of the residents in Coleham, who were unable to find sufficient room in their parish church, where only 788 could find sitting room out of a population of 3,000 inhabitants; 2,185 of whom reside in Coleham. The design for the church was furnished by Mr. Clinton, architect, formerly of Shrewsbury, but now of Cardiff. It has been erected by Mr. Stant of Shrewsbury, at an expense of 1,834*l.*; is neat, comfortable, and convenient: and, with the exception of the summit of the tower, whereon the weathercock is fixed, is rather ornamental. The brickwork is admirable. A considerable piece of ground, around the church, is set apart as a burial place. (*Shrewsbury Chronicle.*)

ART. IV. *Retrospective Criticism.*

A WORD in behalf of modern Houses. (*W. H. L., in reply to G. B. L.* See p. 502.) — Why it should be so I know not, yet certain it is, that G. B. L. is positively in a passion. If it is his sincere belief, that "buildings have greatly deteriorated within the last century," wherein, by the by, he out-Pugins Pugin himself, he is perfectly welcome to such an exceedingly comfortable opinion, for which, he will, no doubt, be hailed as a staunch ally, by the author of *Contrasts*. What I would chiefly remark is, that he is exceedingly mal-à-propos, however, if he thinks to recommend himself to that gentleman by seriously naming his work in the same breath with *Pickwick*, styling it withal a "grand production, well known to the scientific." A "grand production," forsooth! was there ever a more bungling, clumsy compliment! that is, if it really be intended as such, since it amounts almost to the sneer direct, to irony, and burlesque. Never did I pity Pugin till this moment. A man may endure to be well flagellated, cauterised, and scarified, by a stinging critique; for that will at least give him an opportunity of displaying his philosophy: but to be daubed over with the vilest treacle of flattery, and made a laughing-stock to the public, no philosophy can stand *that*. Wherefore, too, the *Contrasts* should be so well known to the scientific, I cannot guess; it being in itself every thing but a scientific work. Surely G. B. L. is not speaking of it at second hand, without having seen it himself? If so, let him procure it immediately, and he will then discover that it is polemical, sophistical, acrimonious, satirical, quizzical, dogmatical, papistical, vituperative, and eke critical, after a fashion; but, most assuredly, not scientific. It has something of the *facetum* too, yet, most assuredly of all, nothing whatever of the *molle*, in its composition. Nay, even its facetiousness is of such sort, that, though like *Pickwick*, it has caused many to laugh, it has been on the wrong side of their mouths.

That I may not seem altogether to evade what is more immediately directed against myself, I will own that I certainly do prefer fronts with cornices and other dressings, though they be only of stucco, to such bald erections as the houses in Bedford Row: not that I sneer at the latter, as G. B. L. seems to imagine, but merely referred to them as tolerably fair samples of street architecture in

the last century. Here I must guard against misconception: it is the improved style of the present period, and not the material that I commend. It is not stucco, *quoad* stucco, that I am smitten with: on the contrary, I should give the preference to stone. At the same time, I do not understand wherefore either G. B. L., or Welby Pugin himself, should set his face so much against the use of stucco, when, according to both of them, it would appear, the architects of the present day are capable of doing very little that deserves to be executed in more durable material, and preserved to posterity. The latter gentleman, more especially, after pronouncing Regent Street and Regent's Park to be "nests of monstrosities" — wherein I do not say he is greatly in error, — ought rather to rejoice, than the contrary, at knowing they are only "lath and plaster." And I may here remark, *en passant*, that it is for him to explain his blowing hot and cold with the same breath, decrying the use of plaster or stucco in modern times, yet being any thing but shocked at old timber and plaster houses that lean so much forward as absolutely to threaten to fall down on passengers' heads in the street, and which most admirably exemplify Mr. Parsey's "Natural Convergence of Perpendiculars." If the public call out for stone-fronted houses, and will be satisfied with nothing less, they may have them for paying for them: but if they like not those conditions, they can hardly expect that builders will ruin themselves, either out of complaisance to them, or apprehension of G. B. L. From merely reading what that gentleman says, almost any one would imagine that I had professed myself to be particularly charmed with the architecture of Grosvenor Square. Not happening to know any thing of the episcopal palace at Durham, all I can say is, that I can easily conceive it to be a much finer piece of architecture than the bishop's residence here in town. Yet what that has to do with my remarks, I know not; neither can I possibly divine how G. B. L. can reconcile it to himself to speak so disparagingly of the houses in Grosvenor Square and its vicinity, immediately after taking the part of those in Bedford Row, which, any one but himself would allow to be some degrees inferior to the former, if not exactly in architecture, at least in their general air and character. But apropos to Bedford Row, which is probably his own *habitat*, are we to understand that the houses there bear a high premium, as "the many," it seems, are decidedly of opinion that they are very much better built in every respect than modern ones of the same rate, which have sprung up in such numbers? If not, their liking for them must be of a curious sort, seeing that, notwithstanding all their admiration for the former, they prefer the latter for actual residence.

Towards the end of his reply, G. B. L. becomes so enigmatically obscure in his expressions, so mysterious and mystified, that even were I disposed to follow him any farther, I should be very much puzzled to do so. I therefore now dismiss him at once, consigning him to the tender mercies of Welby Pugin, who will, no doubt, on the very first opportunity, give him a sound castigation for his blundering, Malaprop compliments, and Marplot officiousness. — *W. H. L.*

G. B. W. in Reply to A. Y. W., p. 500. — What, another ally! another warning voice to the public! These critics scarcely give me breathing time No sooner have I answered the objections of one, than up springs another in some opposite quarter, like the head of a second hydra! A. Y. W., however, is not *very* severe; indeed, he rather amused me by his echo of Messrs. Coles and Cook. He reminds me of the anecdote told of Burke making an eloquent speech at some public meeting, when a country gentleman, who wished to speak to the same effect, rose and exclaimed vehemently, "I say ditto to Mr. Burke." So it is with A. Y. W., who, without deigning to particularise the errors of my design, or to point out in what manner he avoids such errors in his own, contents himself with saying, "ditto" to Mr. Coles. He appears to pique himself upon the originality of his truss, which I presume, he considers to consist in the idea of suspending the tie-beam from the queen posts by iron bars; for this, with the exception of his scantlings, which are certainly very original, is the only material variation he makes from those already given by

Messrs. Coles and Cook. This, although in my opinion an objectionable method, is by no means new; the tie-beam of the roof of Whitehall Chapel, erected many years ago, was thus suspended; but the rarity of its adoption in other instances is a tolerable proof that it is not of much value. I will now only add, and I am sure Mr. Coles will, with candour, subscribe to my opinion, that, notwithstanding A. Y. W. has had the benefit of his (Mr. Coles's) and Mr. Cook's remarks upon my truss; and although he chimes in so admirably with "G. B. W.'s design is faulty," yet he has fallen into the same error, (if error it be, which I doubt), of making the queens the principal supports of the truss; for it is clear, that in the security of his queen posts is involved the safety of his whole roof.— *G. B. W. London, October* 6. 1837.

Art. V. *Queries and Answers.*

New London Bridge. — One of the difficulties of constructing works of masonry, in such a soil as that which forms the bottom of the river Thames, may be imagined from the fact that the foundations of New London Bridge have subsided 11 ft. since its erection in 1831. (*Report on the accident which happened to the Thames Tunnel, in Morn. Chron.*) Can any of your readers inform me if this extraordinary statement be correct, and if so, how it happens that all the arches have sunk to the same depth; because, if this had not been the case, there must have been rents exhibited somewhere, which there are not; or at least, there were not when I passed under the bridge in a wherry on my way to Woolwich, on the 27th of July last. — *H. G. Pitman. Windsor, Aug.* 28. 1837.

Rendering Thatch incombustible. — A. M. G. Barentin of Leipsic lately invented a method of preparing thatched roofs in such a manner as not to be liable to danger from fire. The Saxon government has had M. Barentin's thatch tried, and has approved of it so much as to order it to be generally made use of. (*Scotsman*, Sep. 20. 1837.) Alum would have some effect, both in preserving thatch, and in rendering it incombustible. We know an instance of a gentleman Kyanising the thatch to be used on an ornamental cottage roof, and we hope to be able in a few years to state the result. In the mean time we should be glad to learn if any of our readers know the German secret; and whether any have tried Kyanising with thatch, and what has been the expense per superficial yard of thatched roof, or per truss or load of thatch. — *Cond.*

A Town with spiral Streets. — You have frequently suggested plans for new towns and cities: did you ever think of the beautiful effects which would be produced by a spiral street being continued from the centre to the suburb, with straight diverging streets intersecting it? The straight streets would be the principal business thoroughfares, and the spiral one would be chiefly for the public buildings, and the houses of retired or professional persons. The cathedral, theatre, museum, galleries of art, &c., would be towards the centre, and other important public buildings would be placed in the spiral street, to form a terminating object to each of the straight diverging streets, at the other ends of which, next the public walk and the country, might be placed columns or obelisks. Supposing the site of the city or town to be slightly conical, the public buildings in the centre would be seen from nearly every part, even from the straight streets over the tops of the buildings terminating them; and this would frequently produce most rich and pleasing combinations of architectural objects. I need say no more on the subject, for you will be able to imagine the detailed arrangement of such a plan. I should like much to hear the opinion of you or any of your readers: also to know whether any town with spiral streets has been built. — *R. V. Worcester, July* 17. 1837.